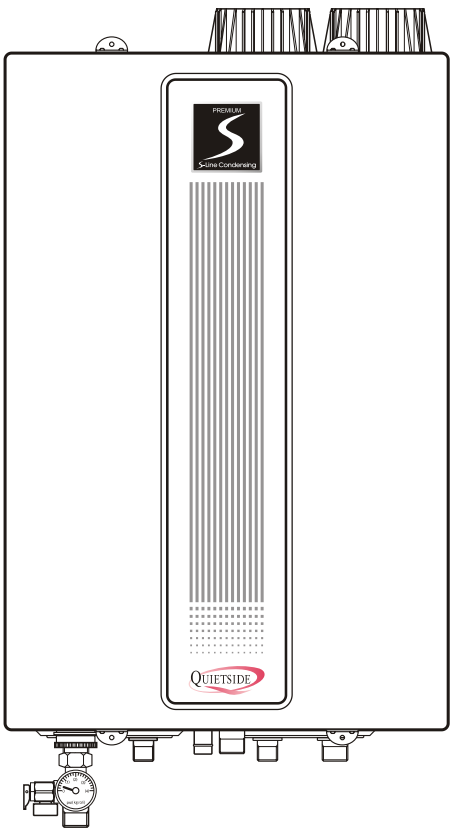
QUIETSIDE

www.quietside.com

Rev 1

User's Manual

MODEL **DPW-099 DPW-120**



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WARNING

This product must be installed and serviced by a licensed plumber, a licensed gas fitter, or a professional service technician and/or in accordance with all local code. Improper installation and/or operation, or installation by an unqualified person, will void the warranty.

WARNING

Operation of this unit creates carbon monoxide gas and flue gases which can cause serious injury or death. In addition, if the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or death.

※This User's Manual can be modified without prior notification for product quality improvement purpose.

Please use this product after reading this User's Manual for your safety.

1 Safety Warnings

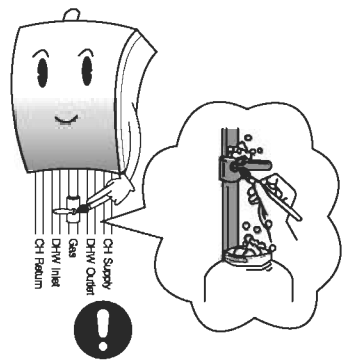
- The cautions issued by this user's manual include critical information for the safety while using the product. When the user fails to adhere to the following requirements can cause death, serious damages, and a great property loss.
- For safety, according to the level of danger, we have indicated by "Danger" , "Warning" , "Caution" and the definitions for these terms are as follow:

⚠ Danger	When the required terms are not followed, it indicates an urgent danger that may cause death or serious bodily injury
⚠ Warning	When the required terms are not followed, it indicates latent danger that may cause death or serious bodily injury
⚠ Caution	When the required are not followed, it indicates latent danger that may cause light injury or semi-serious injuries

- The definitions of the symbols indicated on the product and user's manual are as follows

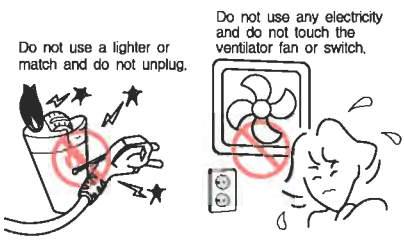
	This symbol indicates a "Must" follow sign
	This symbol indicates a "No touch allowed" sign
	This symbol indicates a "General prohibition" sign.
	This symbol indicates a "No Fire" sign
	This symbol indicates "Grounding for prevention of electric shock"
	This symbol indicates "Caution for electric shock"

⚠ Danger



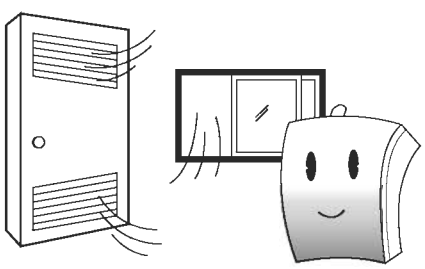
Please check for gas leak on the gas connection portion frequently with soapy water.

- In case of gas leakage leading to an explosion that can cause serious bodily injury or property damages.
- Management in case of gas leak
  - ▶If there is a bubble or you can smell gas(like rotten onion), there is gas leak
    - ① Please immediately stop using and close the gas shut-off valve.
    - ② Open the window for ventilation.
    - ③ Please contact a your gas supplier, dealer where you purchased or main office service center



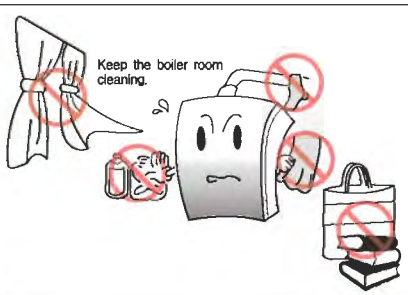
If there is gas leak, please don't act like follow, it may cause an explosion.

- ▶Do not use a lighter or match and do not unplug.
- ▶Do not use any electricity and do not touch the ventilator fan or switch.



Always be sure to check the ventilation.

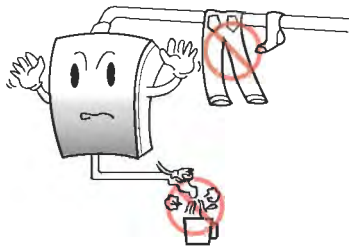
- Please close all the doors leading to the inside of the house from the appliance room when using the appliance. Otherwise Carbon monoxide(CO) may cause poisoning by incoming of exhaust fumes.
- If the ventilation is not good, it may cause shorten the use life imperfect combustion.
- Please always keep the air vent and ventilation opening of the appliance.
- Please keep the appliance room window opening.



Do not leave any combustibles or inflammable near the appliance.

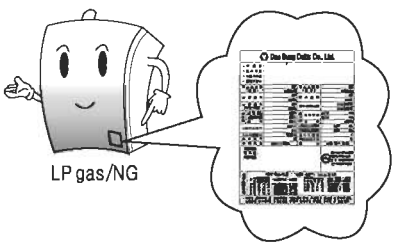
- If there are any combustible material such as petroleum, gas or vinyl, they may cause an explosion of fire.

⚠ Warning



Please do not use the appliance for any other purpose than for heating and water.

- If used for drying laundry, a fire may occur.
- If used domestic hot water for cooking, some harm to the person may occur.

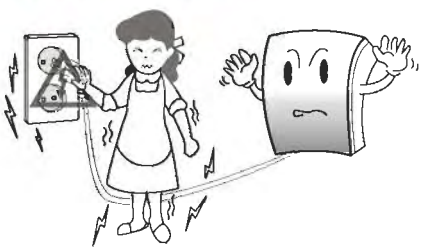


Please use after checking the type of gas used.

- If you use the product first or when you move, please check the type of gas used. (LP gas/NG)
- If it don't match supplied gas and specified gas, a fire or explosion may occur due to improper combustion.
- The gas type specified on the front cae of the appliance.

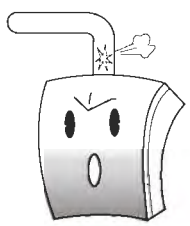
Please do not touch the outlet cord with wet hands.

- This may cause an electric shock.



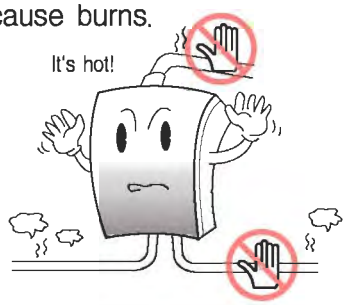
Please check air intake pipe and flue outlet pipe whether they are unconnected or have some cracks.

- If they were, it might cause CO poison.



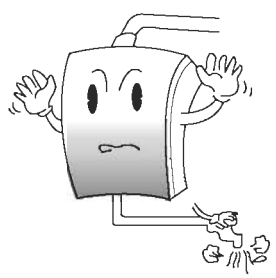
Please do not touch the flue or pipe while the appliance is turned on and operating.

- While operating, the flue or pipe are extremely hot and can cause burns.



Please check domestic hot water temperature before using domestic hot water.

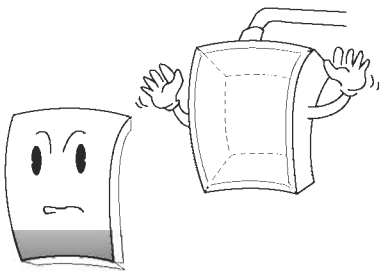
- When you use the domestic hot water, please be careful not to be burned specially for children and aged man. Because if you use small quantity of hot water, extremely hot water can be serve



⚠ Warning

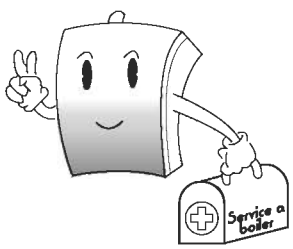
Please don't open the appliance cover.

- If you open the appliance cover and repair or remodel, it may cause electric shock or burns.
- After you get the service, please close the cover proper.



Please request for any gas pipe repair at the gas pipe professional installers.

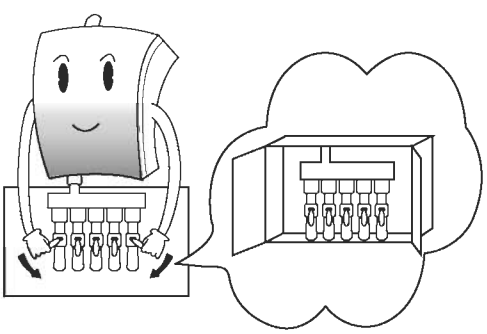
- Any such repair by non-accredited gas pipes installer can cause gas leakage and accidents.



Please submit a request for inspection of your unit at least once a year.

- We are not responsible the accident that you don't have regular A/S inspection.
- If important function became low such as fan, safety valve, temperature sensor, PCB, pump and expansion tank, it may cause and accident. Please receive A/S regular inspection at least once a year from the dealer where you purchased the unit or mail office service center for safe and lengthened use of your water heater for dual purpose.

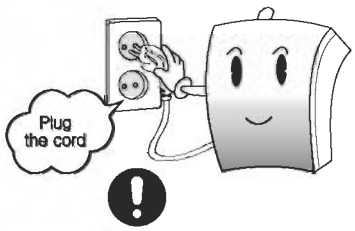
⚠ Caution



When the unit operates, please make sure that the distributor valve is opened at least one.

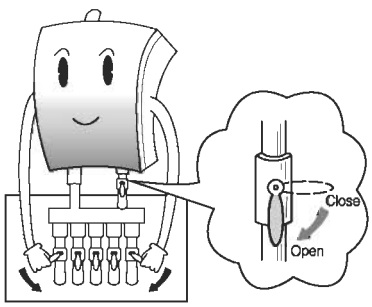
- If you operate while the distributor valve is all closed, it may cause fire, noisy and make shorten the product life.

⚠ Caution



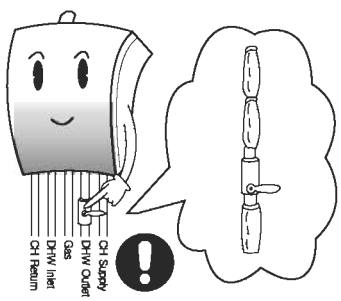
Do not unplug the unit even when not in use for a long time during winter.

- Freeze guard function uses electricity to operate. Thus, when the cord is unplugged, the freeze guard will not function properly causing freezing leading to appliance and pipe damages.



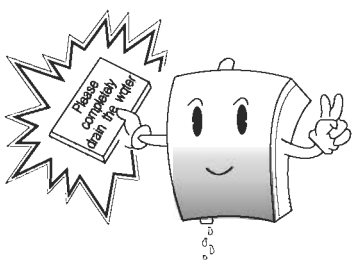
Please leave distributor valve and gas shut-off valve when not at home for a long time during the winter.

- For freeze guard, the appliance must be left on. If the appliance distributor valve and gas shut-off valve are closed then the appliance will not operate properly to cause freezing leading to damages to appliance and pipes.



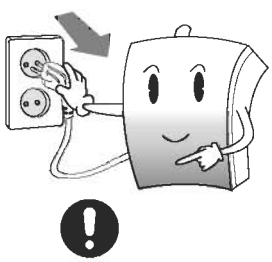
Please insulate the exposed pipes.

- Not covering the exposed pipes with insulation material will cause damages to the pipes due to freezing.
- Specially, please insulate supply water pipe and domestic hot water pipe.



Please completely drain the water from the pipes when not in use for a prolonged period.

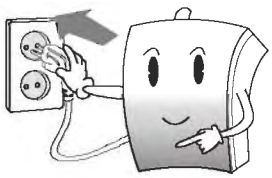
- Pipes may freeze when not in use for a prolonged period.



Please unplug when you clean the heater.

- When clean the appliance with water or wet towel, it may cause electric shock.

⚠ Caution

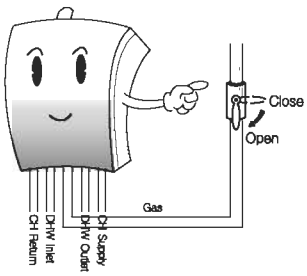


Please use after checking the power source.

- The power source for the appliance should be checked before use. Higher or lower power supply may cause a fire, appliance function reduction and shorten its use life.

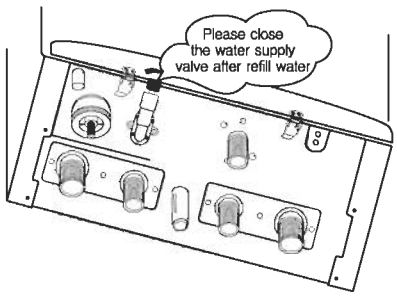
Please entirely open the valve.

- If you just open the valve in half, it may cause shorten its use life.



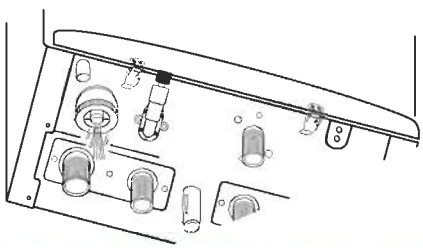
When you refill water, please don't leave the water supply valve for prolonged period.

- Leaking of water may cause flooding in house.



Please don't put user's manual or install certification in the unit.

- It may cause a fire.



When you clean the central heating filter, please follow this user's manual.

- Please be careful hot water in the appliance when you clean the filter(refer 20 page)

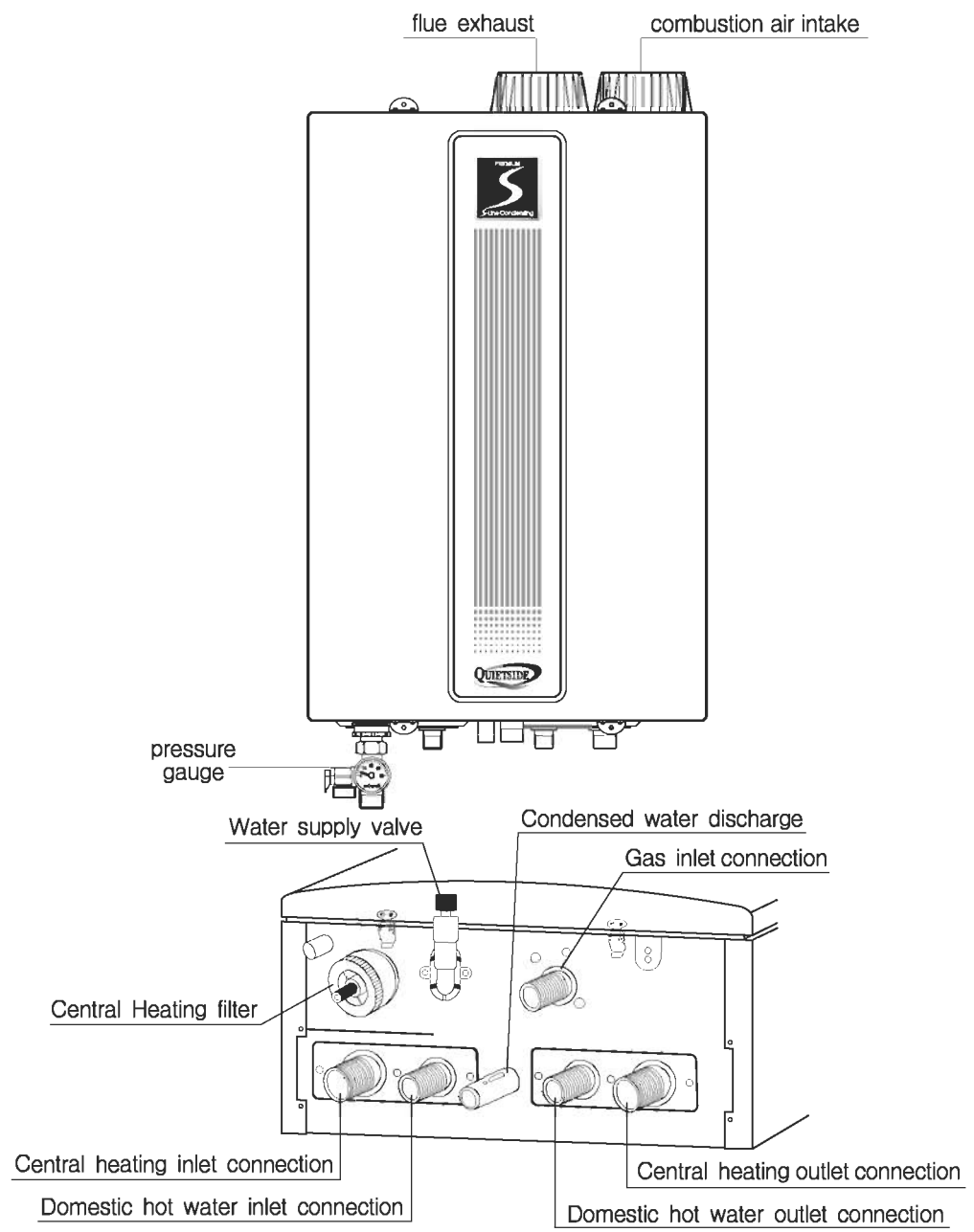
■ **Please don't operate a remote control and don't change the water temperature while using domestic hot water.**

- It may cause burns due to sudden hot water.

※ After reading this user's manual, please place this user's manual in a location where you can see easily.
And when you move to other place please hand over next user.

2 Names of Components

■ It is convenient to know names of components.



The Water Heater indication

■ This appliance must be installed in accordance with local codes or, in the absence of local codes, the National Fuel Gas Code, ANSI Z223.1 / NFPA 54 or the CSA B149.1, Natural Gas and Propane Installation Code.

≫ Cet appareil doit etre installe selon les reglements locaux, ou en l'absence de tels reglements, selon le National Fuel Gas Code, ANSI Z223.1 / NFPA 54, ou les, Code d'installation du gaz natural et du propane, CSA-B149.1.

■ This water heater is provided with a pressure relief valve. For safe operation of the water heater, the relief valve(s) must not removed from its designated point of installation or plugged.

≫ Ce chauffe-eau est equipe d'une soupape de decharge. Pour assurer le fonctionnement securitaire du chauffe-eau, ne pas retirer ni obturer cette soupape de decharge.

■ The water heater shall not be connected to any heating system or componet(s) previously used with a nonpotable water heating appliance.

≫ Le chauffe-eau ne doit pas etre relie a un systeme de chauffage ou de composants deja utilise avec un appareil de chauffage d'eau nonpotable.

■ Toxic chemicals, such as used for boiler treatment, shall not be introduced into the potable water heater used for space heating.

≫ Les produits chimiques toxiques, tels que ceux utillises pour le traitement de la chaudiere, ne doivent pas etre introduits dans la Chauffe-eau potable utilisee pour le chauffage des locaux.

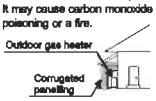
⚠WARNING

HIGH TEMP WARNING — When using hot water or bathing, check the temperature first with your hands. Otherwise, you may get scalded.

FIRE WARNING — Do not leave easily flammable items near the heater or the air intake or exhaust. Otherwise a fire could occur.

PROHIBITED — **VENTILATION WARNING (INDOOR ONLY)**
Take care to provide adequate ventilation during heater use. However, do not use a range hood ventilation fan. Otherwise, carbon monoxide poisoning could occur.

PROHIBITED — **Corrugated panelling PROHIBITED (Outdoor heater only)**
Do not use corrugated panelling around the outdoor heater. It may cause carbon monoxide poisoning or a fire.



⚠CAUTION

CONTACT PROHIBITED — **BURN CAUTION**
During heater use or soon after, do not touch high temperature parts such as the heater body, exhaust flue or exhaust outlet.

Please read Owner's Manual thoroughly to ensure proper use of the water heater. Incorrect operation can result in scalding and fire.

- Use only the gas type specified on the heater.
- For remote operation, use the remote control described in the Owner's Manual
- When the remote control is connected, operate the remote control in accordence with the instructions displayed on it, and confirm ignition and extinguishment on the remote control display.
- Do not use water that has been stored inside the heater for a long period as drinking water or cooking water.
- Perform inspection and maintenance periodically in accordance with the Owner's Manual.
- If the temperature drops severly in winter and there is the possibility of the heater freezing, prevent freezing using the method described in the Owner's Manual. If this is not done, the heater may freaze and become dameged.
- If you are moving the water heater, contact the manufacturer.
- If a malfunction occurs(smoke from the exhaust port, burning smell, etc.) or an emergency occurs(earthquake, fore, etc.), stop using the water heater and contact your nearest service center to arrange for an inspection.
- Do not tamper with or modify the vent damper.
- Use only category III venting material.
- Wiring diagram behind the front cover.

DANGER

Vapors from flammable liquids explode and catch fire causing death or severe burns. Do not use or store flammable products such as gasoline, solvents or adhesives in thesame room or eree near the water heater.

keep flammable products:
1. Far away from heater.
2. In approved containers.
3. Tightly closed
4. Out of children's reach

Vapors:
1. Cannot be seen
2. Vapors ere heavier than air
3. Go a long way on the floor
4. Can be carried from other rooms to the main burner by air currents.

DANGER

Hot Water Heater temperature over 125°F can cause severe burns instantly or death from scalding.
Children, disabled and elderly are at the highest risk of being scalded.
Feel water temperature before bathing or showering.
Temperature limiting valves are available, ask professional person.

WARNING: California proposition 65 lists chemical substances know to the state to cause cancer, birth defects, death, serious illness or other reproductive harm. This product may contain such substances, be their origin from fuel combustion (gas, oil) or components of the product itself.

A temperature and pressure relief valve listed as complying with the standard for Relief Valve and Automatic Gas Shutoff Devices for Hot Water Supply System, ANSI Z21.22. shall be installed at the time of installation of the heater in the location specified by the menufacturer. Local codes shall govern the installation of relief devices for safety operation of tha water heater. The relief valve must not be removed or plugged.

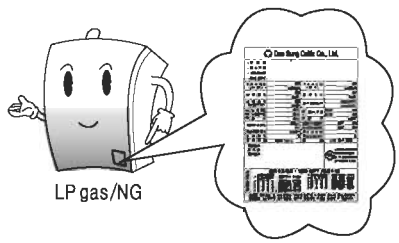
User's Manual

3 Proper Operation

Before operation

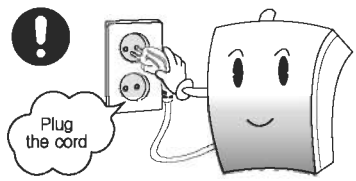
1 Check the gas type

- When using the unit for the first time or moved, check whether the type of gas specified in the product and the supplied gas match.(LPG/NG)
- The type of gas is indicated on the rating plate located on front of the appliance.



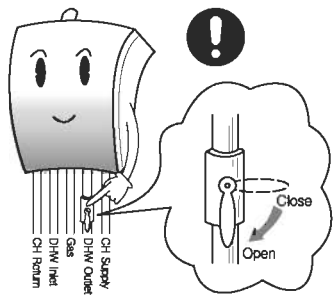
2 Check for power supply

- Please check whether the appliance is plugged in properly.



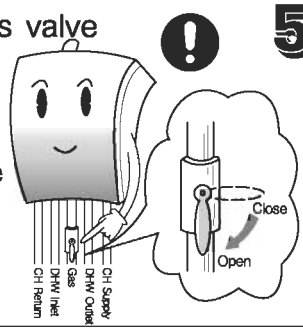
3 Check the water supply valve

- Please leave the appliance water supply valve at all times for automatic replenishing water valve to be operate since the appliance will not ignite when the check lamp is on due to insufficient water or no water in the heating pipes.(Please follow page 24, except automatic system)



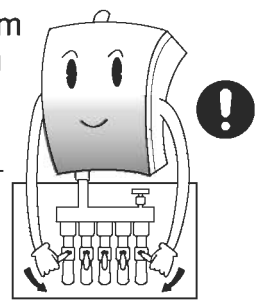
4 Check the gas valve

- Please check to make sure the gas shut-off valve connected to the appliance is open.



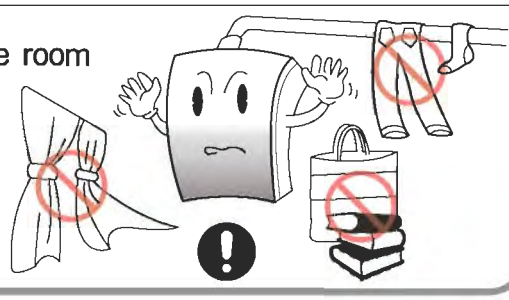
5 Check each room valve connection

- Please check to make sure each room valve connected to the appliance is open.



6 Check the area around the appliance room

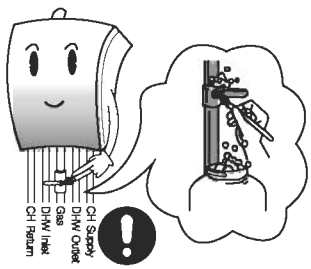
- Please remove any combustible or flammable materials and do not place any wet laundry over the exhaust pipe.
  This may cause a fire.



When in use

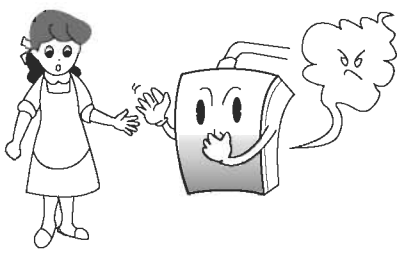
1 Caution for Gas leaks.

- Please check for gas leak on the gas connection portion frequently with soapy water. (If any bubble form or smell then there is a gas leak, contact the nearest gas supplier immediately.)

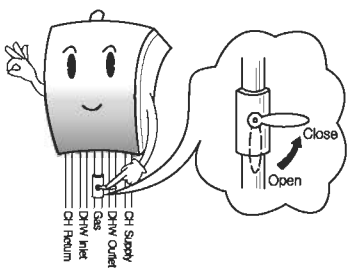


Management in case of gas leak

1. If you think there is gas leak, please stop using



2. Close the gas shut-off valve



3. Open the window or door for ventilation

4. Please contact a your gas supplier , dealer where you purchased or main office service center.

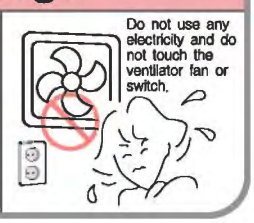
5. Please don't act like below while gas is leaking

⚠ Danger

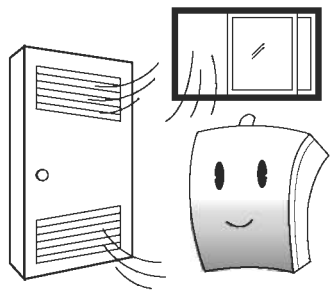
Do not use a lighter or match and do not unplug

⚠ Danger

Do not use any electricity and do not touch the ventilator fan or switch

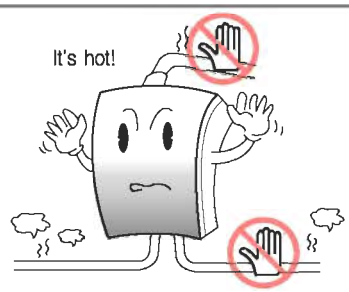


2 Caution for ventilation



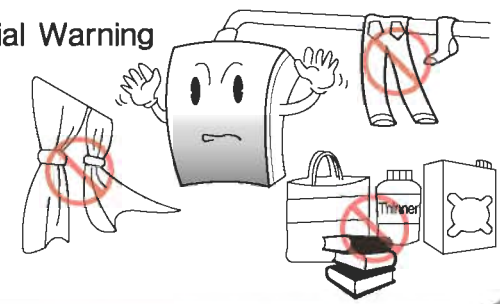
- Please make sure there is sufficient inflow and outflow of air for ventilation when using the unit. (supply vent, ventilation open)
- If the ventilation is improper then the combustion condition deteriorates inside the appliance and it may cause shortened use life of the appliance. Also, seepage of exhaust gas into the house may cause Carbon Monoxide poisoning.
- Please always keep the air vent and ventilation opening of the appliance.

3 Burn Warning



- While operation, please be careful not to burn yourself on the flue or pipes since they are extremely hot.

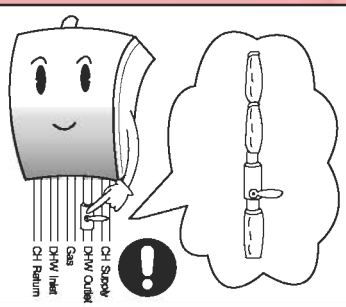
4 Combustibles and flammable material Warning



- Please do not use the appliance for any other purpose than for heating and hot water.
- Please do not store combustibles or flammable material such as gasoline near the appliance. This may cause a fire.

Cautions to Prevent Freezing during the Winter Months

⚠ Caution



Exposed pipes must be insulated.

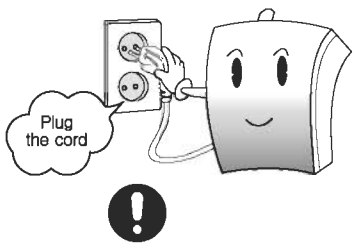
- Please insulate the exposed pipes. It is safer to protect the pipes exposed to outside elements with insulation material.
- Particularly, domestic hot water inlet pipe and domestic hot water outlet pipes must be insulated.

1. When not using the unit for short-term (2~3days)

※When not using the unit for 2~3days during the winter, please select the "❄" function for 2~3days of outing to facilitate freezing guard device for effective and convenient operation.

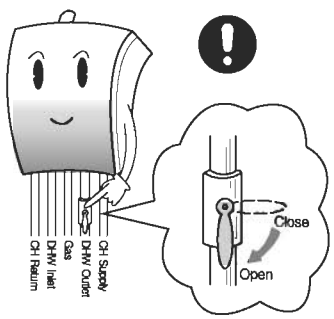
1 Check for power connection

- Please check to be sure that the appliance is plugged in securely. The freezing guard operates only with power on.
  (Except, when the heating water and any other water inside the appliance are drained, or when there is no water available, do not plug in the unit. This may cause malfunction in the pump or overheating.)



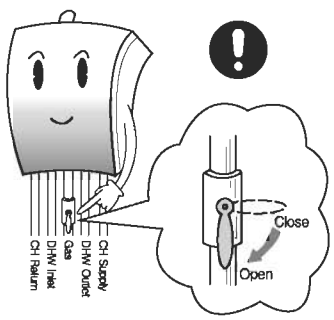
2 Check water supply valve

- Please check whether the domestic hot water inlet valve connected to the appliance is open.



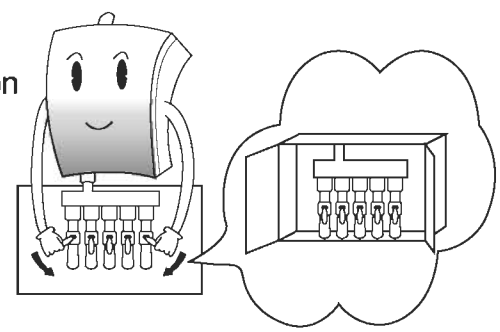
3 Check the Gas shut-off valve

- Please check whether the Gas shut-off valve connected to the appliance is open.



4 Check each room valve connection

- Please check whether each room valve of distributor connected to the appliance is open.



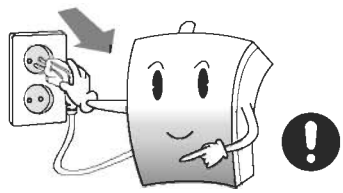
User's Manual

2. Long term Non-Use

※When not using for long term please unplug the unit and open the hot water valve to drain the hot water.

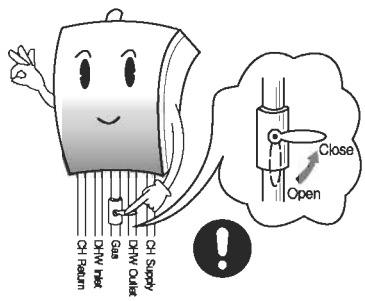
1 Shut-off the Power Supply

- Please unplug the unit from the wall power supply.



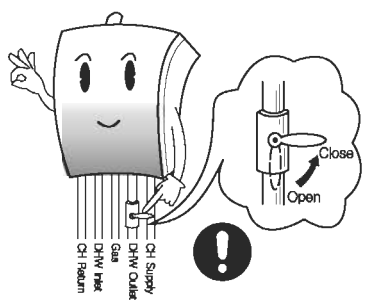
2 Shut-off the Gas Supply

- Please close the Gas shut-off valve.



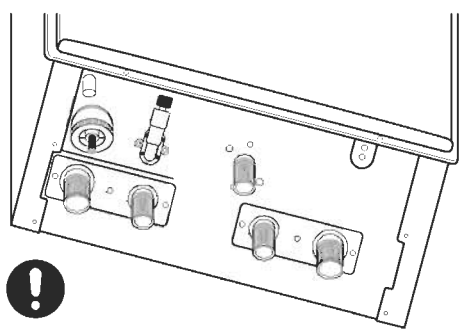
3 Shut-off the Water Supply

- Please close the domestic hot water inlet valve.

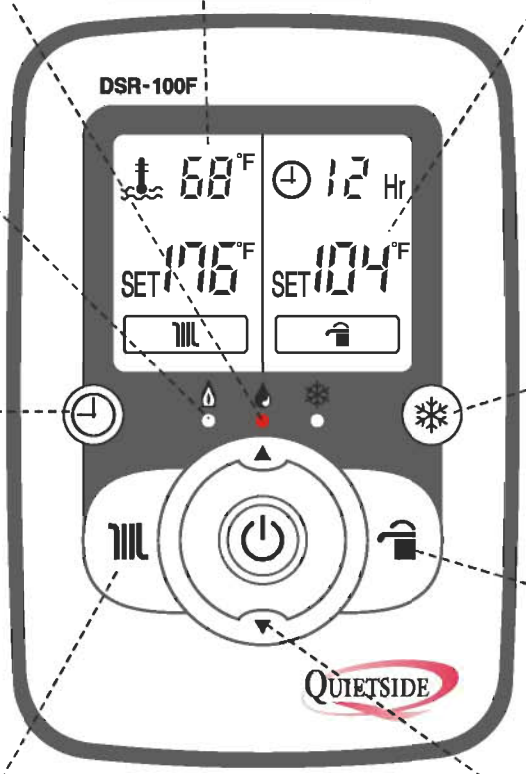


4 Exhaust of central heating water

- Please discharge water inside of appliance by turning water drain nipple where is left bottom of appliance to the left.
- Open all the distributor valves in the room to drain all the water.



Temperature Control Indicator and Button Function(DSR-100F)



Water level detection failure lamp

If there is not enough water in appliance, this lamp turns on.

Indoor Temperature Indicator

Indicates the current room temperature of around room controller

Domestic hot water temperature indicator (Temperature) (DSR-100F)

After pressing Domestic hot water temperature button, please set domestic hot water temperature by using the key ▲▼

98~114°F, 120°F
130°F, 140°F

Burn lamp

When the appliance is operating,
Burn lamp is on.

Stand by button.

It is used when you go out, it will operate up to 77°F then freezing guard function is on

Repeated timer setting button

- Running for 20minutes after space heating stops as set time (periodically repeat)
- After press the repeated timer setting button, use the key ▲▼ to set the time
- Set range:1~12 hours

Hot water button (Temperature)

Press this button and use up-down key (▲▼) to set hot water temperature you want

(98~114°F, 120°F
130°F, 140°F)

Central heating Button

Set the temperature of central heating water which circulates in pipe or radiator by using ▲▼ setting range: 77°F, 122~176°F (unit:2°F).
When this button is off it doesn't indicate LCD central heating and turn to only domestic hot water.

Power button and Lamp

- Button : Use this button to turn on/off the water heater.
- Lamp : If the unit is operating normally, the lamp is green.
  If it needs to be checked, the lamp is red on or blinking (In case of failure, failure code is displayed at the indoor temperature indicator)

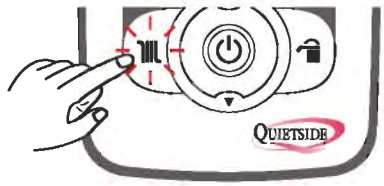
▲▼ Button

- Central heating temperature setting
- Repeated timer setting
- Domestic hot water temperature setting (DSR-100F)

When using "㎐ (Central heating)" button

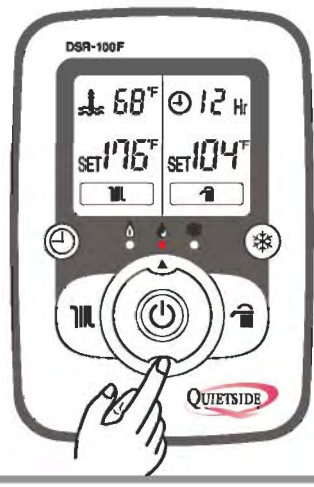
1 Please press power button.
Then the lamp will turn on.

2 Please press the " ㎐ " button.
Then the current temperature of central heating water will blinking



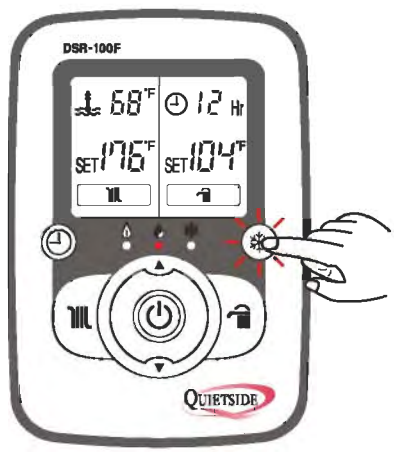
3 Please set the desired central heating water temperature by pushing the up-down key(▲▼) when current temperature of central heating water will blinking

- ▶You can set the heating water temperature. 77°F, 122~176°F(unit: 2°F)
- ▶Set temperature is indicating the central heating water temperature which runs through the radiant heating methods such as radiators or under floor heating pipes.
- ▶If you set your desired temperature, DPW models will maintain the temperature automatically repeating on and off.



When using " ❄ " button

- ▶In running for central heating, if you press " ❄ " button, the " ❄ " lamp is on. Then the room temperature 77°F will be off, the appliance will revert to now heating temperature.
- ▶In state of " ❄ "(" ❄ " lamp is on), if you again press this button, it is reverted to the condition of central heating
- ▶In state of using the Repeated timer function, if you press the " ❄ " button, the " ❄ " lamp is on. Then the room temperature 77°F will be off, the appliance will revert to now central heating temperature.
  the function of repeated timer will be swept away. In state of this, you press the " ❄ " button, it is reverted to the repeated timer.



When using "⏲(Repeated timer setting)" mode

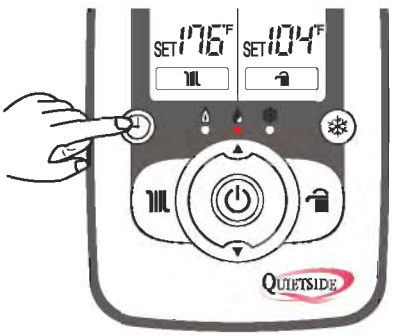
■ What is repeated timer?

▶The appliance will stop for set time and will operate for 20 minutes(You can choose the set time from min. 1 hour to max. 12 hours) periodically repeats this mode.

▶This time, the heating water temperature is automatically set at 176°F. From the point you choose the repeated timer function by using the key ▲▼, space heating stops for set time

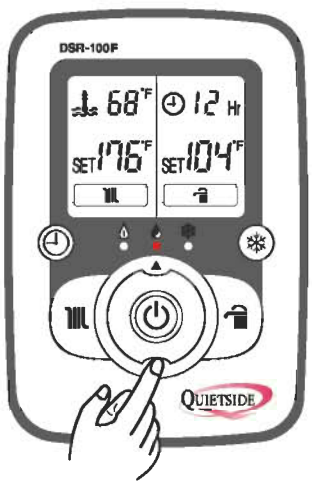
1 Press the power button and the lamp is on.

2 Press repeated timer button.



3 Please press the up-down key to select the time you want, then the space heating will not operate for set time.

4 When it press the timer button again, the DPW models will revert to the heating mode.

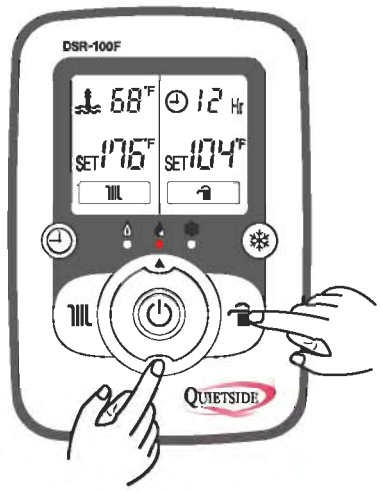


User's Manual

When using "(Domestic hot water)" mode

Can be used in central heating and repeated timer heating mode

1 Press the power button and the lamp is on.



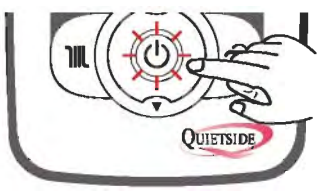
2 1) DSR-100F
- ▶The domestic hot water temperature will be indicated on the temperature indicator.
- ▶Please set the desired domestic hot water temperature by pushing button ▲▼.
  Setting range : 98~114°F(unit: 2°F), 120°F, 130°F, 140°F

3 If you open the domestic hot water tab, the domestic hot water will be supplied.
- ▶When you stop using domestic hot water, it will automatically revert to central heating mode.
- ▶Domestic Hot water flux is set by regulator in heater

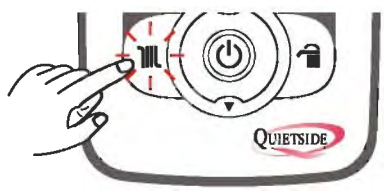
When using "Water heater" mode

Can be used domestic hot water, without operation central heating

1 Press the power button and the lamp is on.



2 Please turn off room temperature indicator by pushing it.



3 When you open the domestic hot water tab, appliance starts the operation. And domestic hot water will be supplied.
- ▶When you close the domestic hot water tab, appliance will not operate. It waits for next use. Then when you open the domestic hot water tab again, appliance will operate again.
- ▶When you set water heater mode, the central heating mode doesn't operate, you can only use domestic hot water. So if you use during the summer time, it might be more convenient.

Regulator?

Regardless of water pressure of the place where the appliance is installed, it has regulator function to supply domestic hot water with same flow rate.

Button Functions

- "Low water" lamp "💧"(Red): In case of water supply error, this lamp is on, after finishing water supply properly, this lamp is out.
- "Burn" lamp "🔥"(Green): During the appliance is operating, this lamp is on when stop operating, the lamp is out.
- "Stand by" lamp "❄"(Green): When set stand by, this lamp is on, and the function is removed, the lamp is out.
  (set heating temperature is 77°F)
- "Power lamp" "⏻"(Green/Red) : When the power is on, it is green. When has an error, it is red. When the power is off, the lamp is out.

Displayed error code

- If the boiler become to failure, the power lamp will be blinking(red) and display the following error code

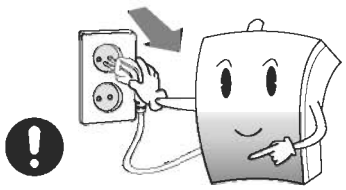
No.	Error Code	Error contents
1	A	Low water level
2	A2	Abnormality of hall sensor
3	A3	Pump detection switch short
4	A4	overheated Thermostat open
5	A5	Pump detection switch open
6	A6	Failure of ignition
7	A7	Gas valve relay short
8	A8	Abnormality of flame detection
9	A9	Operation of frozen detection
10	AA	Prevention of boiling
11	Ab	Central heating Temp. Thermostat Abnormality
12	Ac	DHW Temp. Thermostat Abnormality
13	Ad	Leakage of condensed water

■ Please refer to troubleshooting (page 32~42)

How to clean the heating filter

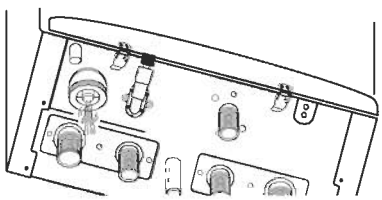
- If install the unit first time or use for long time, rooms are not as well heated as before even can hear strange noise due to dirt in pipe and it cause shorten the use life.
- Please remove the dirt when use first time in winter and more than twice in a year.

⚠ Caution



Please unplug the unit from the power source when you clean.

- When clean with water or wet towel, it may cause electric shock.

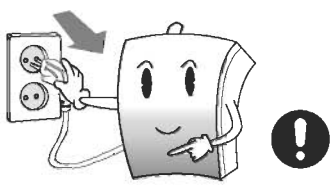


Please follow the below when you clean the heating filter.

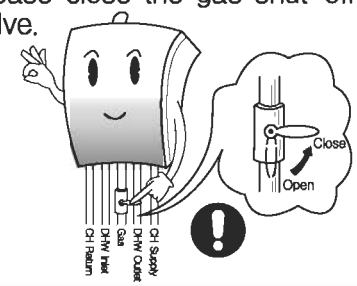
- When clean the heating filter, hot water in the appliance may cause burns

Domestic hot water filter cleaning

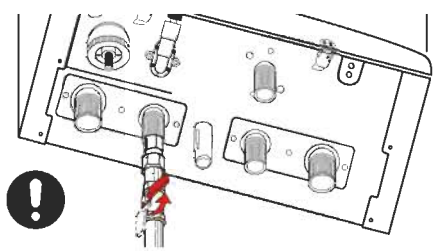
1 Stop Power Supply
Please unplug the unit from the power source.



2 Stop Gas Supply
Please close the gas shut-off valve.

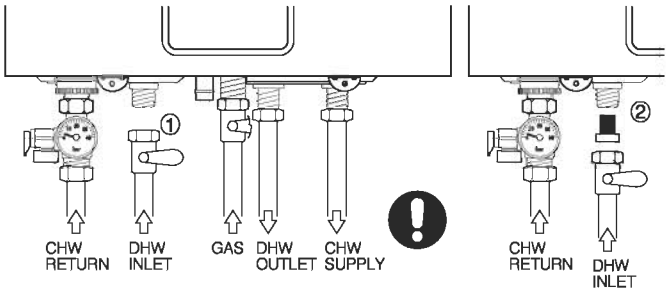


3 Stop Water Supply
Please close the domestic hot water inlet valve.



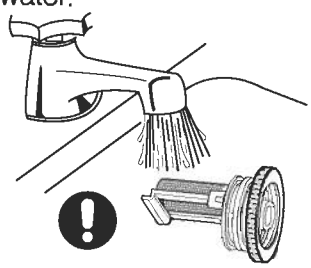
4 Detach DHW filter

- Please unfasten DHW outlet nut ①
- Please take out the filter from DHW nipplel attached the unit ②



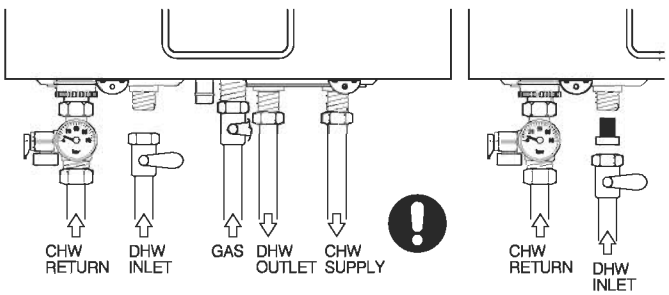
5 Domestic hot water filter cleaning

Please clean the domestic hot water filter with clean water.



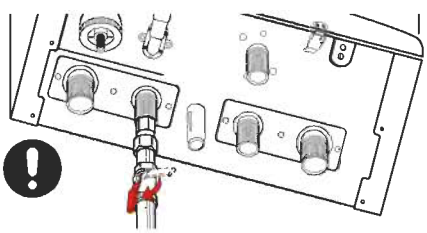
6 Reattach the domestic hot water filter

After cleaning the domestic hot water filter, please reattach it in reverse order item 4.



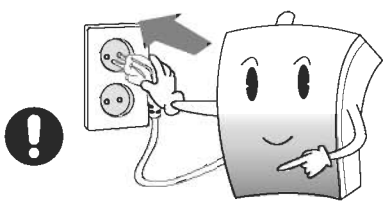
7 Water Supply

Please open the domestic hot water inlet valve.



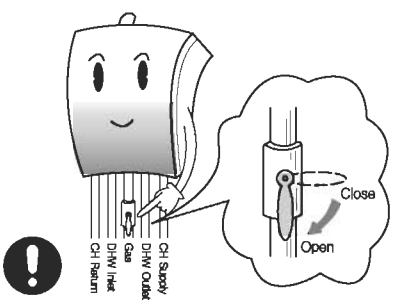
8 Power Supply connection

Please plug the unit to the power supply.



9 Gas Supply

Please open the gas shut-off valve.

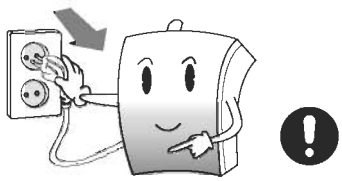


User's Manual

Central heating filter cleaning

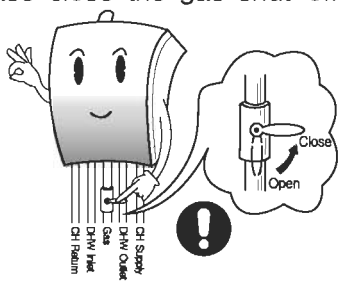
1 Stop Power Supply

Please unplug the unit from the power source.



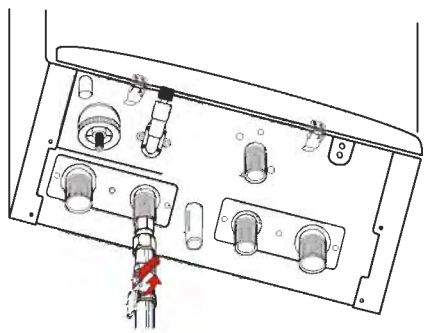
2 Stop Gas Supply

Please close the gas shut-off valve.



3 Stop Water Supply

Please close the domestic hot water inlet valve.

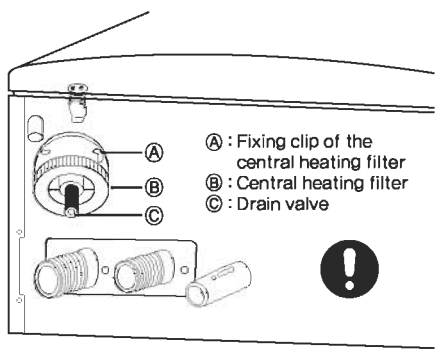


4 Drain valve separation

Please drain the water about 5ℓ in the appliance by turning the drain valve to the left.

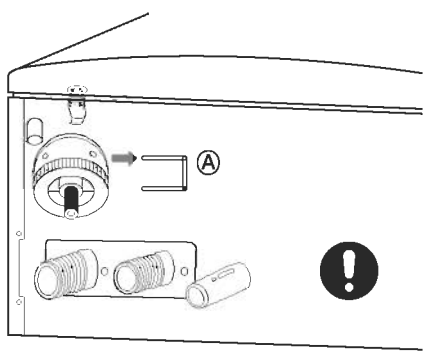
⚠ Caution

When you running out the hot water, be careful not to burn yourself since there may be hot water



5 Detach the fixing clip of the central heating filter.

Please detach the fixing clip of the central heating filter(A) by using tool.

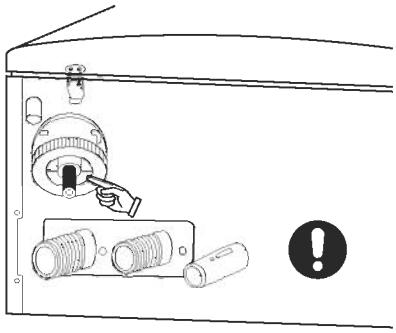


6 Detach central heating filter

Please separate a central heating filter (Please pull down the heating filter)

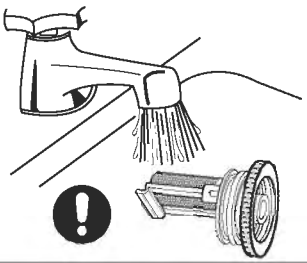
⚠ Caution

When you running out the hot water, be careful not to burn yourself since there may be hot water



7 Central heating filter cleaning

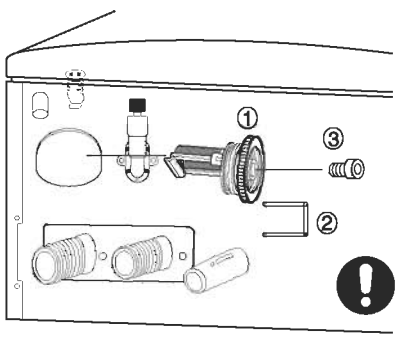
Please clean the central heating filter with clean water.



8 Reattach the central heating filter

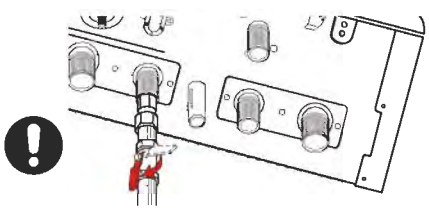
After cleaning, please reattach the central heating filter.

Order ①: Reinsert the central heating filter.
Order ②: Reinsert the fixing clip of the central heating filter.
Order ③: Please insert the drain screw valve by turning to the right.



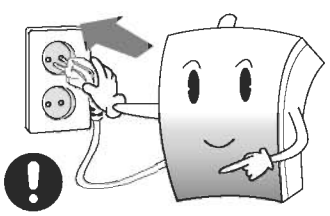
9 Water Supply

Please open the domestic hot water inlet valve.



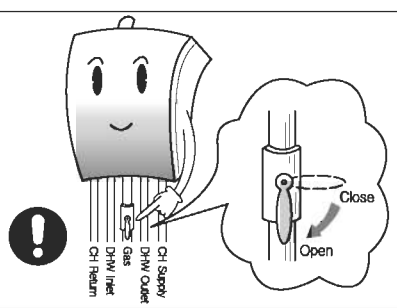
10 Power Supply connection

Please plug the unit to the power supply.



11 Gas Supply or water refill

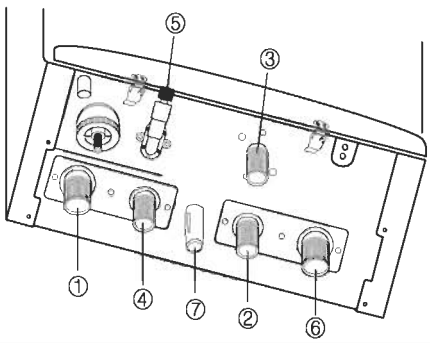
Please open the gas shut-off valve then please refill the water by method of refilling water. (Refer 24 page)



How to supply the water

■ When the temperature control indicator lamp is on or "A"mark, the power lamp is red, hot water is not enough.
Please supply the water as follow.

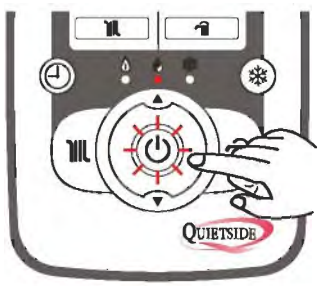
Bottom of the unit



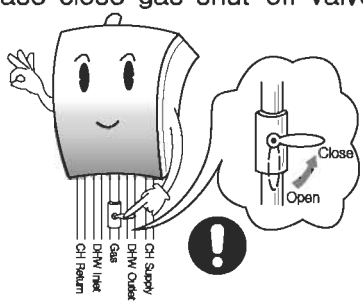
① Central heating inlet connection
② Domestic hot water outlet connection
③ Gas inlet connection.
④ Domestic hot water inlet connection
⑤ Water supply valve
⑥ Central heating outlet connection.
⑦ Condensed water discharge.

How to supply the water with pressure gauge model (Air Close type)

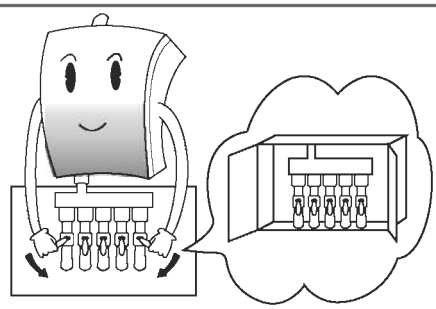
1 Please power off the remote controller.



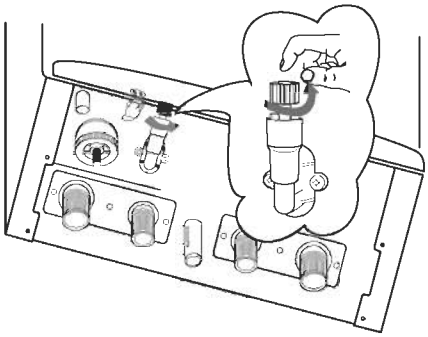
2 Please close gas shut-off valve.



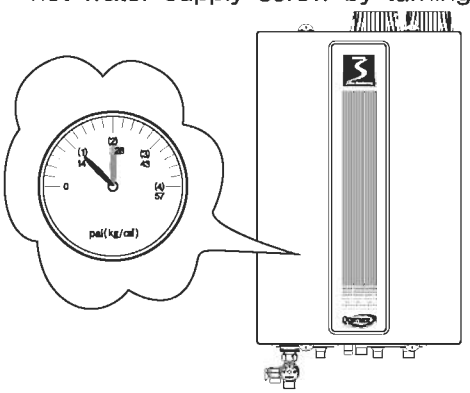
3 Please open each room valve.

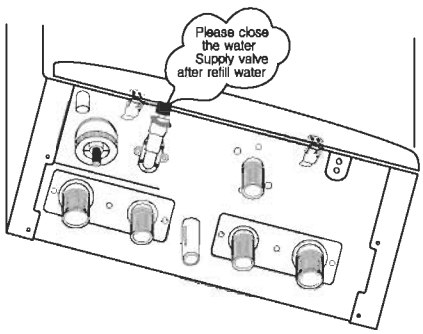


4 Please open the domestic hot water supply screw by turning to the left at the bottom of the unit.

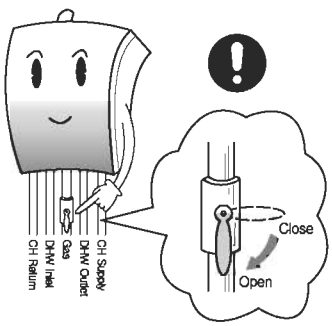


5 If the front of the unit's pressure gauge indicator indicates 1~2kgf/㎠ (14~28psi), water is fully supplied. Then please close the domestic hot water supply screw by turning to the right.





6 Please open gas shut-off valve.



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- ▶Please check that the operating of the unit is good by turning on the power.
- ▶After the air is out in the unit or pipe by automatic air vent the water level failure indicator will be on. Please supply water by the order above.
- ▶Please close each room valve that doesn't need to be central heating. But keep open the distributor at least one.

4 Checkpoints before making Repair Work Order

■ In case of malfunction, please check the following items then please call an A/S center or dealer for repairs.
※When the accidents happened in case that is served, repaired, changed, installed and moved in unrelated place with manufacture , manufacture is not responsible of this.

■ After has service, please check service payment and changed part.
Then please sign on service register and keep this copy.

Conditions	Cause	Countermeasure
When smelled gas. (Similar to rotten onion)	· Please close shut-off gas valve then open all window for ventilation, and please contact gas supplier or our company service center. ※Never allowed to use combustibles or flammable material such as plug, inside light switch, match and lighter. · Please check for gas leak on the gas connection portion frequently with soapy water	
When smelled the exhaust. (When feel dizzy and nausea)	· If the exhaust fumes leaks into the house, carbon monoxide(CO) may cause poisoning(suffocation)	
	1. Chimney is unconnected?	Please check the chimney connection.
	2. Chimney is blocked?	Please clean the chimney.
	3. Heating and supply pipe are blocked?	Please check heating and supply pipe are opened.
	4. No water supply in condensed water trap?(Please check the air is circulate while operating)	Please call for inspection at A/S center.
When the ignition spark is not working.	1. The power cord is connected?	Please plug the power cord.
	2. Gas is supplying normally?	Please open gas shut-off valve. If there is no gas in case of LPG, please exchange to new one.
	3. Setting water temperature is low?	Please set water temperature higher than water temperature of the pipe
When hear strange sound during operation.	1. Air is left in the pipe?	Please open a hand air vent and let the air out in the heating pipe.
	2. Shut-off valve in the pipe is closed (including distributor)?	Please open shut-off valve.
	3. The appliance is attached properly on the wall?	Please fix the appliance on the wall. ※After this measure you still hear large noise, please call for inspection.
Room is not warm enough.	1. The indicator is set to domestic hot water only?	Please set the indicator to central heating mode.
	2. Setting central heating water temperature is too low?	Please adjust central heating water temperature properly.
	3. Distributor valve is closed?	Open the distributor valve.
	4. Distributor valve is opened properly according to each room size?	Please check each room distributor valve is opened.
	5. Central heating filter is blocked?	Clean the filter.(Please refer 22 page)
	6. Let the air out in the pipe?	Please open air vent valve in the distributor and let the air gone.
Domestic hot water is not available.	1. Domestic hot water valve is closed?	Please open domestic hot water valve.
	2. Domestic hot water filter is blocked.	Clean the filter. (Please refer 20 page)

Product Specifications

	DPW-099A	DPW-120A
Heating System Data		
Heat Input (Btu/h)	47,800 - 99,000	47,800 - 120,000
AFUE (%)	90	90
Htg Water Temp (DegF)	122 to 176 DegF leaving unit Heat Exchanger	
Working Pressure (psi)	15 - 20	
Freeze Protection Device	Thermistor, will energize pump/combustion	
Heating Min Flow (GPM)	1.2	
Htg Heat Exch Water Volume (gal)	0.2	0.2
Ignition Type	Electronic Spark	
Domestic Hot Water		
DHW Production Energy Factor	0.83	0.85
Temperature Setting	Controlled : Settings of 98 - 114°F, 120°F, 130°F, 140°F	
DHW Minimum Flow Rate (GPM)	0.7 GPM	
GPM at 50F in 100F Out	3.7	4.5
GPM at 50F in 110F Out	3.1	3.7
GPM at 50F in 120F Out	2.6	3.2
GPM at 50F in 130F Out	2.3	2.8
General Data		
Control Voltage	24V DC - Requires X-X or Zero Voltage Contact for Zone applications	
Fuel Type	NG or Field Conversion to LP	
Natural Gas Inlet Press ("WC)	Minimum 5.8" WC to Maximum 9.7" WC	
LP Gas Inlet Pressure ("WC)	Minimum 9" WC to Maximum 13" WC	
Gas line Size (inch)	Min Size 3/4"	
Unit Voltage (V)	115V-1Ph-60Hz	
Power Consumption (W)	120	140
Pump Flow @ 10ft Head	2.5 GPM	
NOX Levels (ppm)	20	20
Venting		
Max Flue Temp (DegF)	136	
Venting Material	Ø3" Schedule 40 PVC	
Max Vent Length (feet)	45ft Equivalent each for both Intake and Exhaust	
Max number of Elbows*	3 per Individual Vent pipe	
*One Elbow = 5 ft equivalent length, which must be deducted from the total vent length		
Dimensions		
Weight (lbs)	70	70
Unit Height (less vent conns) (")	27 5/8"	27 5/8"
Width (")	18 1/8"	18 1/8"
Depth (")	8"	8"
Gas Connection Size (")	3/4"	
Heating Supply/Return (")	3/4"	
DHW Inlet/Outlet (")	1/2"	
Flue/Air Intake (")	Vent Connection ø3.5" to accept 3" PVC	

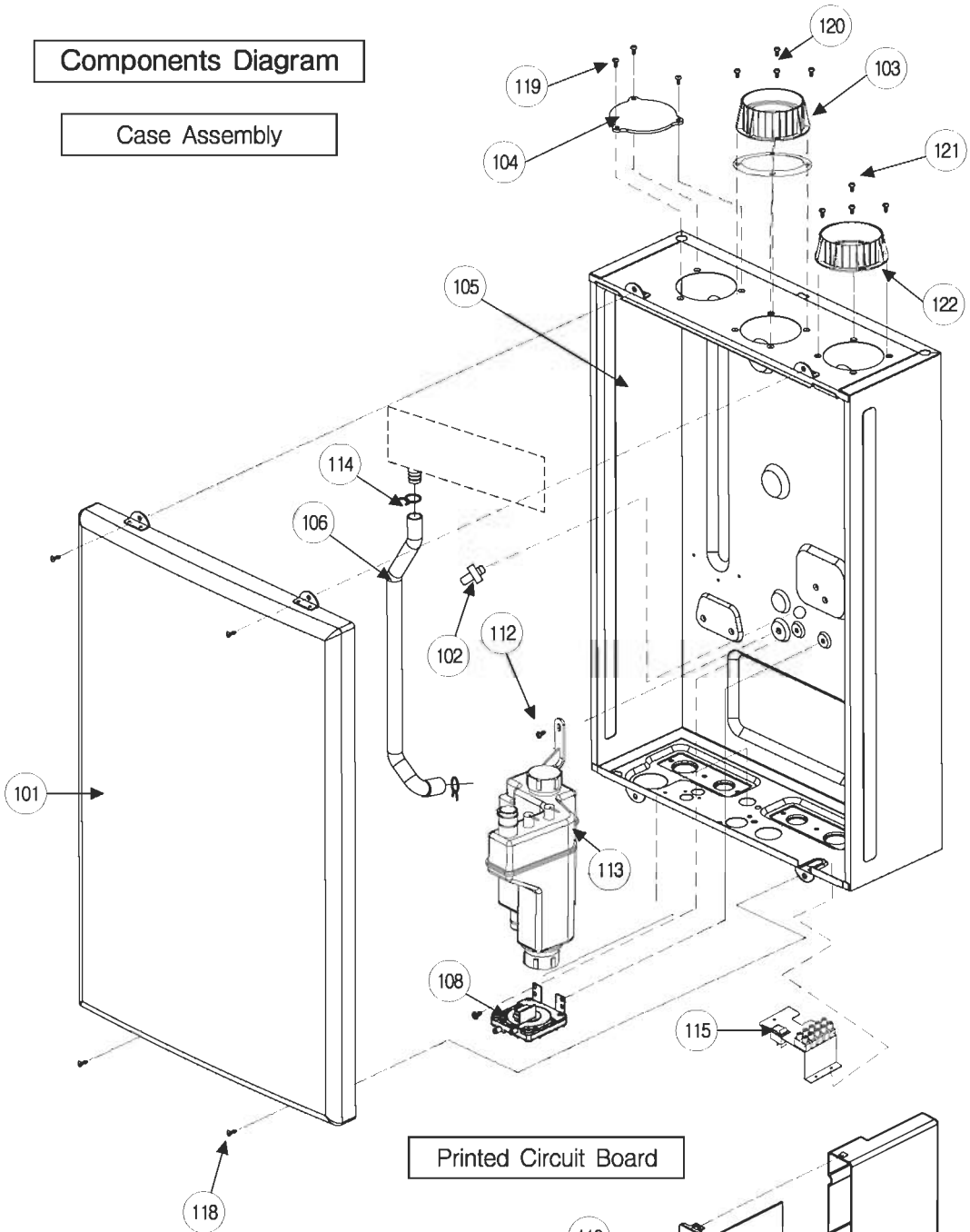
Quietside maintains a policy of continuous product development and specifications can change

Quietside West : 8750 Pioneer Blvd, Santa Fe Springs CA 90670 : Tel 562 699 6066, Fax 562 699 4351
Quietside East : 6 Pine Hill Drive, Carlisle PA 17013 : Tel 717 243 2535, Fax 717 243 7917
www. Quietside.com

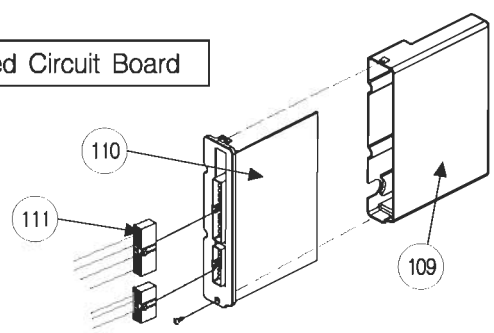
ISOMETRIC VIEW FOR DPW-099A AND DPW-120A

Components Diagram

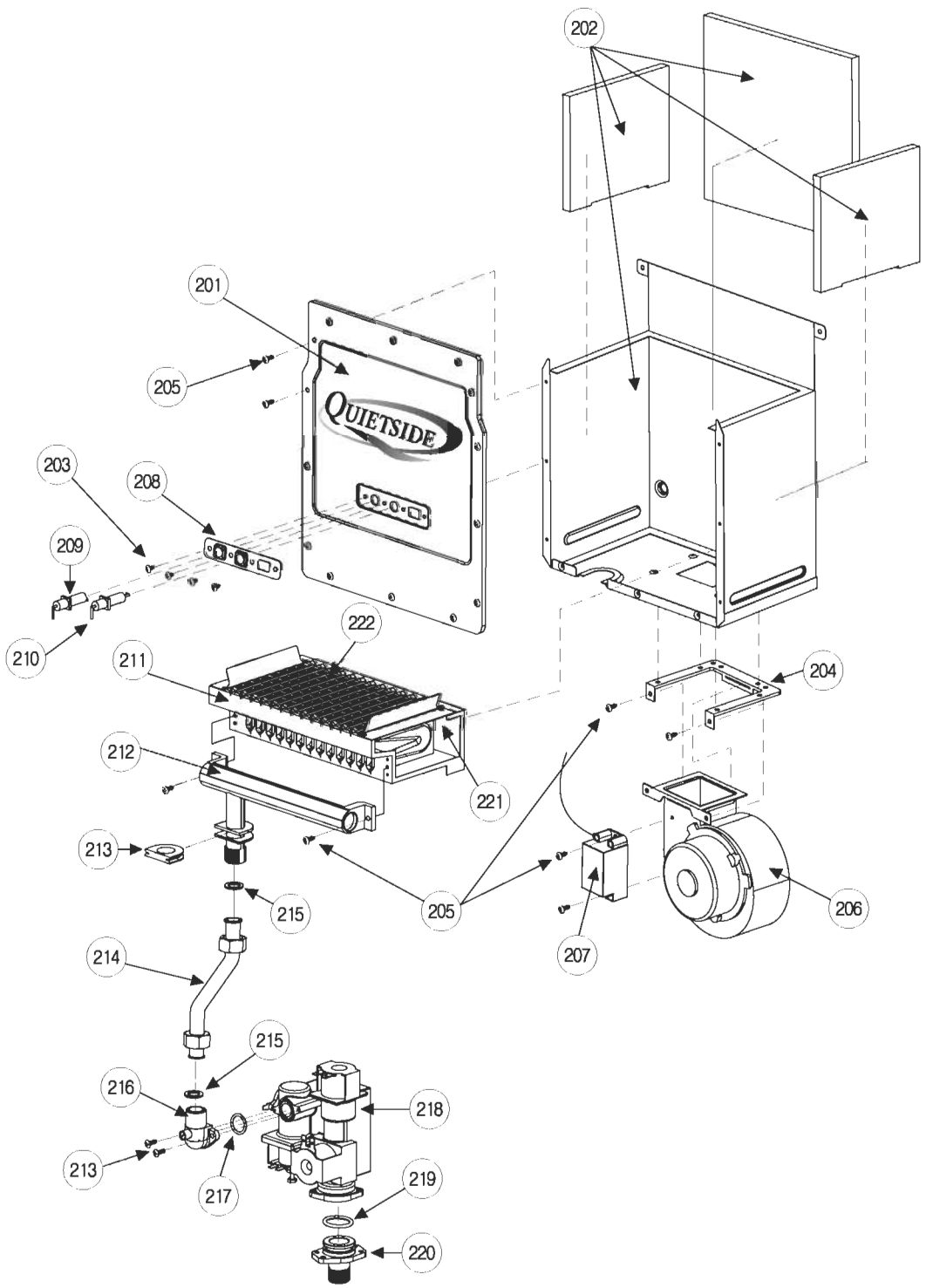
Case Assembly



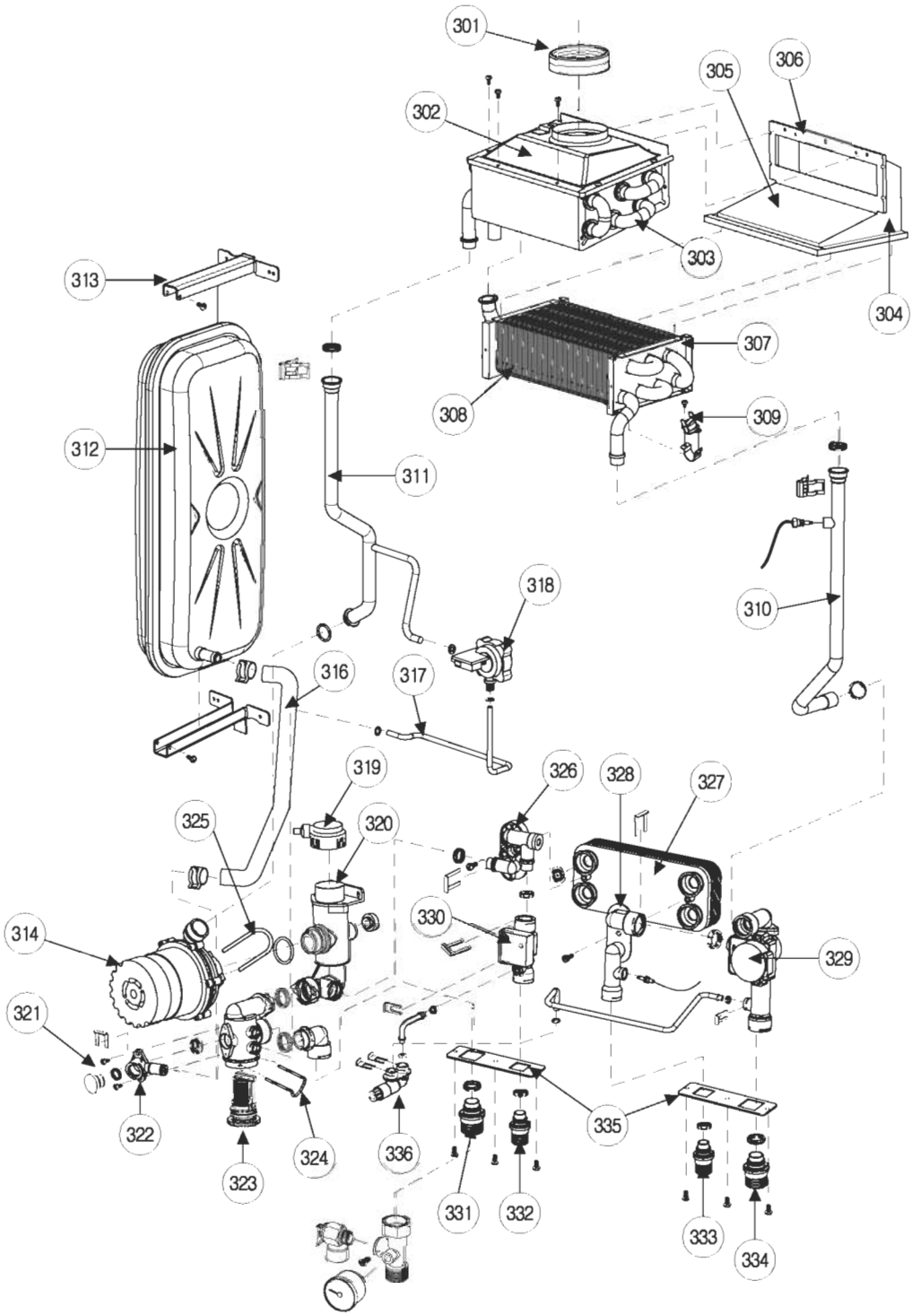
Printed Circuit Board



Burner Assembly



Water Line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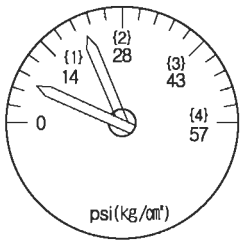
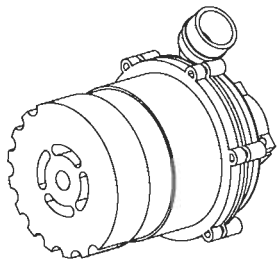
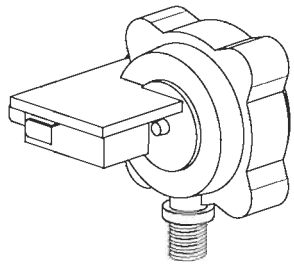
Part List

101	Front Case Assembly
102	APS measuring connector
103	Flue gas outlet connector
104	Air Intake Cover
105	Chassis Assembly
106	Condensate Outlet Hose
107	Condensate Trap Packing
108	Air Pressure Switch
109	PCB Box
110	PCB Assembly
111	13+21Pin Wire
112	Condensate 'S' Trap Fixing Bracket
113	Condensate 'S' Trap Assembly
114	Condensate Outlet Hose Fixing Clip
115	Junction Box
116	Terminal Block
117	Ø3×16 Tapping Screw
118	M4×14 Screw
119	Ø4×10 Tapping Screw
120	Ø4×12 Tapping Screw(STS)
121	Ø4×12 Tapping Screw
122	Combustion Air Intake Connector
201	Combustion Chamber Front Assembly
202	Combustion Chamber Surround Assembly
203	Ø4×8 Tapping Screw
204	Fan Guide
205	Ø4×10 Tapping Screw
206	Combustion Fan
207	Ignitor+wire
208	Spark Plug Bracket
209	Spark Plug
210	Flame Sensing rod
211	Air Baffle (Mask)
212	Manifolder Assembly
	Manifolder Assembly(LPG)
213	Manifolder Packing
214	Gas Connection Pipe
215	1/2" Packing
216	Gas Adapter
217	Gas Valve packing
218	Gas Valve (UP23)

219	Gas Valve O-ring
220	Gas Valve Connection Nipple
221	Burner Fixing Bracket
222	Burner
223	M4×14 Screw
301	Flue Connector Packing
302	Collector Hood
303	Latent Heat Exchanger Assembly
304	Duct Assembly
305	Heat Cut off Board
306	Duct Seal
307	Extremity Fin
308	Exchanger Fin
309	Overheat Thermostat
310	Supply Pipe
311	Return Pipe
312	Expansion Vessel Ass'y
313	Expansion Vessel Bracket
314	Pump
315	Pressure Gauge
316	Expansion Vessel Connection Hose
317	Pump Detection Switch Connection Pipe
318	Pump Detection Switch
319	Air Vent Assembly
320	Pump Bracket Cover
321	Pressure Relief Valve
322	T Socket
323	Return Filter Cap
324	Return Filter Fixing Clip
325	Pump Fixing Clip
326	RW+CW Block Body
327	Plate to Plate Heat Exchanger
328	SW+HW Block Body
329	3-Way Motor
330	Flow Switch
331	Return/Supply Connection Nipple
332	Cold Water Inlet Connection Nipple
333	Hot Water Outlet Connection Nipple
334	Return/Supply Connection Nipple
335	Nipple Fixing Bracket
336	Water Supplementation Device

6 Troubleshooting

Error Code : "A" 〈Low Water Level〉

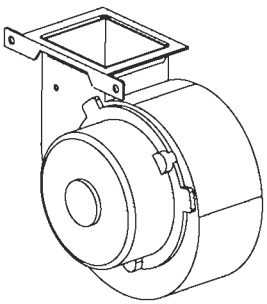
		
Pressure Gauge 〈Fig.1〉	Pump 〈Fig.2〉	Pump Detection Switch 〈Fig.3〉

Symptom and Cause	Solution	Reference
This occurs in the heating or sealed system.		-
1) Low Water level in heating system	- check the pressure gauge it should read between 0.5~1.5kg/㎠ (7~21psi)	〈Fig.1〉
2) Air in the heating system	- Purge air from the heating system.	
3) The circulation pump is working but there is not enough RPM or the impeller is damaged.	- Please check the pump and check for air inside the pump assembly. If the impeller is out of order, pump has to be replaced.	〈Fig.2〉
4) There is no contact made by the pump detection switch.	- When the unit is running and the pump detection switch contact is closed(correct position), the resistance should be 0 Ohms. If it shows infinity or no reading the switch not making and has to be replaced.	〈Fig.3〉
5) Leakage of water at the pipe of space heating zones	- Check the leakage of water at the pipe or radiator of heating zones.	

Error Code : "A2" 〈Abnormality of Hall sensor〉

Wiring

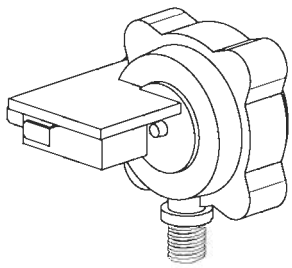
Red : Fan Speed (0~40V DC)
Yellow : Standard Voltage(12V)
Black : Common (GROUND)
White : RPM input



Combustion Fan
〈Fig.1〉

Symptom and Cause	Solution	Reference
1)Wiring connection is bad.	- Reconnect the molex connector. Check the pins for looseness or damage.	
2)The fan does not rotate.	- Measure the voltage. The standard voltage across Black and Yellow is 12V DC. The standard voltage across Black and Red is 0~40V DC If these voltage are normal, the fan is replaced with new fan. If these voltage are abnormal, the PCB is replaced with new PCB.	〈Fig.1〉
3)The fan motor RPM is too slow.	- Replace the fan assembly. To replace the fan assembly remove the 2 self tapping screws at the bottom of combustion chamber.	

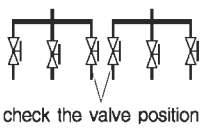
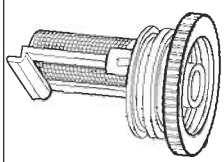
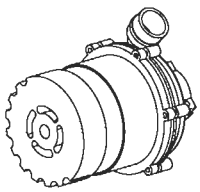
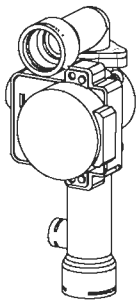
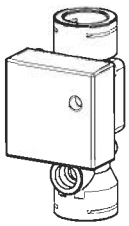
Error Code : "A3" 〈Pump detection switch "SHORT"〉



Pump Detection Switch
〈Fig.1〉

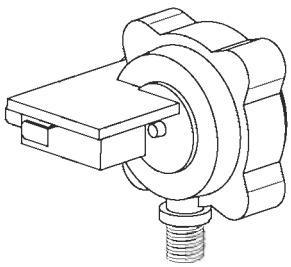
Symptom and Cause	Solution	Reference
If the pump detection switch is made(ON="SHORT") before the pump operates, "A3" error is displayed.		
1) Pump detection switch is made(ON) although the unit's pump is not operating due to no call for heat or DHW or off cycle for the pump.	- Measure the resistance of the pump detection switch. - When the pump is not working, resistance should indicate infinity or no reading(switch in the open position) and 0 when the pump is working and the switch is closed. - If there is no change in the switch resistance when the pump is cycled off and on, clean the pump detection switch or replace the pump detection switch.	〈Fig.1〉

Error Code : "A4" 〈Oveheat thermostat "OPEN"〉

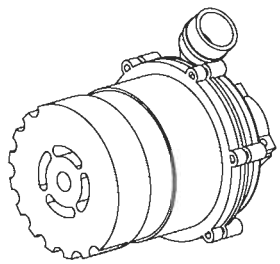
				
Shut off valve 〈Flg.1〉	Space heating filter 〈Flg.2〉	Pump 〈Flg.3〉	3-Way valve 〈Flg.4〉	DHW Flow switch 〈Flg.5〉

Symptom and Cause	Solution	Reference
If the water temperature inside of heat exchanger exceeds 221°F, the sensor opens, shuts down the unit and indicates error code "A4"		-
1) All of the shut off valve are closed.	- Open the valves.	〈Flg.1〉
2) Clogged space heating filter.	- Clean the filter.(refer to page 22~23)	〈Flg.2〉
3) The pump is not working.	- Check the operation of the pump and the motor condition. - Measure the voltage across the Black and White pump wires using multi meter. If the pump is not working although the voltage reading is 120V, the pump should be replaced.	〈Flg.3〉
4) 3-way valve is defective.	- There is a possibility of sticking of ball in 3-way valve. If the ball blocks the space heating line in spite of space heating mode, the 3-way valve should be replaced.	〈Flg.4〉
5) DHW flow switch is not working.	- Check the resistance and if it reads 0 Ohms when DHW is not flowing, it is defective and should be replaced.	〈Flg.5〉

Error Code : "A5" 〈Pump detection switch "OPEN"〉



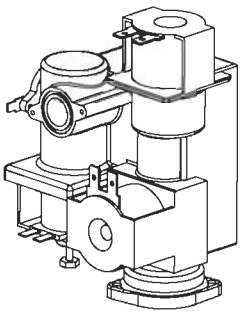
Pump Detection Switch
〈Fig.1〉



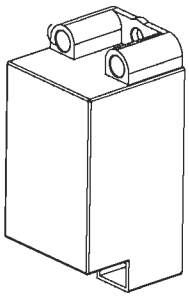
Pump
〈Fig.2〉

Symptom and Cause	Solution	Reference
If the pump detection switch is made (OFF) = "OPEN") after the pump operates, "A5" error is displayed.		-
1) Pump detection switch is made (OFF) although the unit's pump is operating	- Measure the resistance of the pump detection switch. - When the pump is working, resistance should indicate 0 and infinity or no reading(switch in the open position) when the pump is not working. - If the resistance indicates infinity or no reading when the pump is working, clean the pump detection switch or replace the pump detection switch.	〈Fig.1〉
2) The pump is not working.	- Check the operation of the pump and the motor condition. If the pump is not working although the voltage reading is 120V between Black and White pump wire, the pump should be replaced.	〈Fig.2〉

Error Code : "A6" 〈Pump detection switch "OPEN"〉



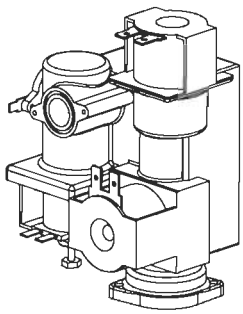
〈Modulating Gas control valve〉
〈Flg.1〉



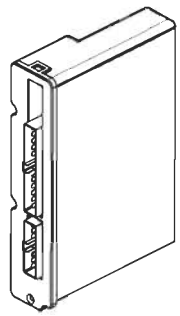
Ignitor
〈Flg.2〉

Symptom and Cause	Solution	Reference
Error code "A6" indicates ignition failure. Unit will attempt ignition 3 times before displaying code "A6" If there is no combustion, then error code "A6" is displayed. 1) Gas Supply is not normal.	Before adjusting the gas valve to compensate for an code "A6" check the incoming gas pressure. - Inlet gas pressure required LNG : 3.5~10.5 inch W.C. LPG : 8~13 inch W.C. - Check supply gas pressure and call the gas company if outside required range. Check inlet gas pressure during combustion. Check the gas line size-minium 3/4" is required.	
2) Modulating gas control valve is not normal.	- Measure the voltage across the Black and White gas valve wires or Black and Blue using multi meter. If the solenoid valve become to be closed although the voltage reading is 120V, the gas valve should be replaced.	〈Flg.1〉
3) Ignitor is not working	- Check the power supply from the 13+21Pin wiring to the ignitor. Should be 120V. - If there is no power supply, check the connection. - The secondary voltage shuld be 15kV and if it measure very lower than 15kV, the ignitor should be replaced. Caution : Only check this with gas supply turned off	〈Flg.2〉

Error Code : "A7" 〈Abnormality of Hall sensor〉



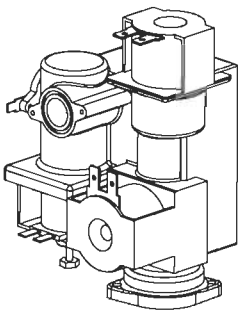
〈Modulating Gas control valve〉
〈Flg.1〉



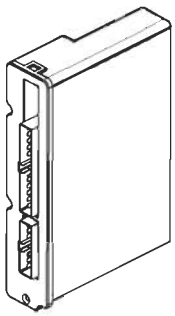
PCB(Printed Circuit Board)
〈Flg.2〉

Symptom and Cause	Solution	Reference
If the gas valve relay is closed ("SHORT") when the unit is not working, the error code "A7" is displayed.		
1)PCB is not normal.	- When the unit is not working, measure the voltage across the Black and White gas valve wires or Black and Blue using multi meter. If the voltage reading is 120V DC, PCB relay is destroyed. PCB should be replaced.	〈Flg.1〉 〈Flg.2〉

Error Code : "A8" 〈Abnormality of flame detection (Pseudo flame)〉



〈Modulating Gas control valve〉
〈Fig.1〉



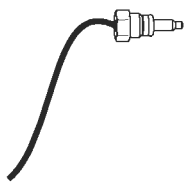
PCB(Printed Circuit Board)
〈Fig.2〉

Symptom and Cause	Solution	Reference
What's a pseudo flame? Combustion occurs but the flame is detected in the combustion chamber before the modulating gas control valve starts opening. In this case, error code "A8" is displayed		
1) There is no voltage to the gas valve but there are small flames in the combustion chamber area when the unit stops running.	- There is a problem with the diaphragm inside the gas control valve. Replace the gas control valve.	〈Fig.1〉
	- If the symptoms remain after performing the checks described above, then the main PCB is defective and should be replaced.	〈Fig.2〉

Error Code : "A9" 〈Operation for frozen prevention〉

Symptom and Cause	Solution	Reference
If the water temperature in unit becomes to lower than 41°F, the error code "A9" is displayed. Then, the unit runs automatically to prevent frozen.	- Please insulate the exposed pipes. - When not using for long term, please refer to page 14	

Error Code : "Ab" and "Ac" 〈Abnormality of thermostat〉

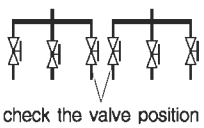
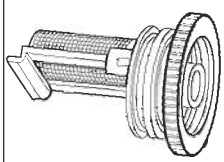
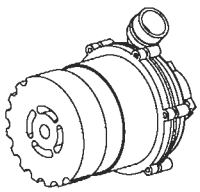
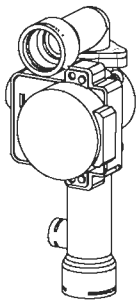
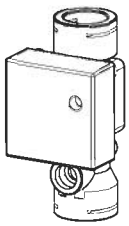


〈Temperature Thermostat〉

〈Fig.1〉

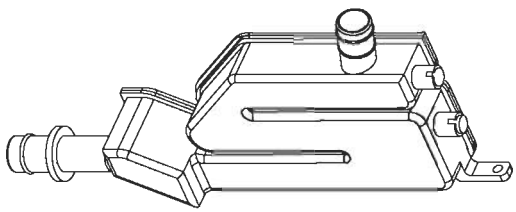
Symptom and Cause	Solution	Reference
Error code "Ab" is abnormality of central heating temp. thermostat. Error code "Ac" is abnormality of DHW temp. thermostat.		
1)A bad connection between the temperature thermostat and 13+21pin connector.	- Check the connector, especially the pin inside the connector - reconnect if necessary	
2)The thermostat is short circuited.	- The temperature thermostat is defective and has to be replaced. Check resistance. 68°F=10330 Ohms, 86°F=7042 Ohms, 104°F=4905 Ohms, 122°F=3485 Ohms, 140°F=2523 Ohms, 158°F=1859 Ohms, 176°F=1395 Ohms. - If there is nothing wrong with the above, the controller is defective and should be replaced.	〈Fig.1〉

Error Code : "AA" 〈Prevention of boiling〉

				
Shut off valve 〈Fig.1〉	Space heating filter 〈Fig.2〉	Pump 〈Fig.3〉	3-Way valve 〈Fig.4〉	DHW Flow switch 〈Fig.5〉

Symptom and Cause	Solution	Reference
If the water temperature inside of heat exchanger exceeds 197°F, shuts down the unit and indicates error code "AA" If the temperature become to lower than 176°F, the unit runs normally.		
1) All of the shut off valve are closed.	- Open the valves.	〈Fig.1〉
2) Clogged space heating filter.	- Clean the filter.(refer to page 22~23)	〈Fig.2〉
3) The pump is not working.	- Check the operation of the pump and the motor condition. - Measure the voltage across the Black and White pump wires using multi meter. If the pump is not working although the voltage reading is 120V, the pump should be replaced.	〈Fig.3〉
4) 3-way valve is defective.	- There is a possibility of sticking of ball in 3-way valve. If the ball blocks the space heating line in spite of space heating mode, the 3-way valve should be replaced.	〈Fig.4〉
5) DHW flow switch is not working.	- Check the resistance and if it reads 0 Ohms when DHW is not flowing, it is defective and should be replaced.	〈Fig.5〉

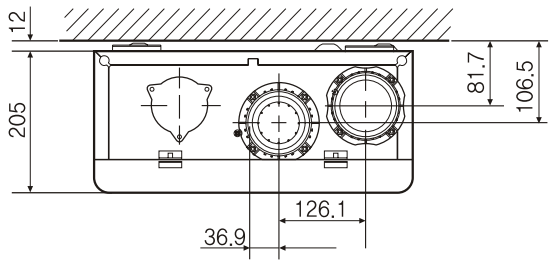
Error Code : "Ad" 〈Blockage of condensate & Flue system〉

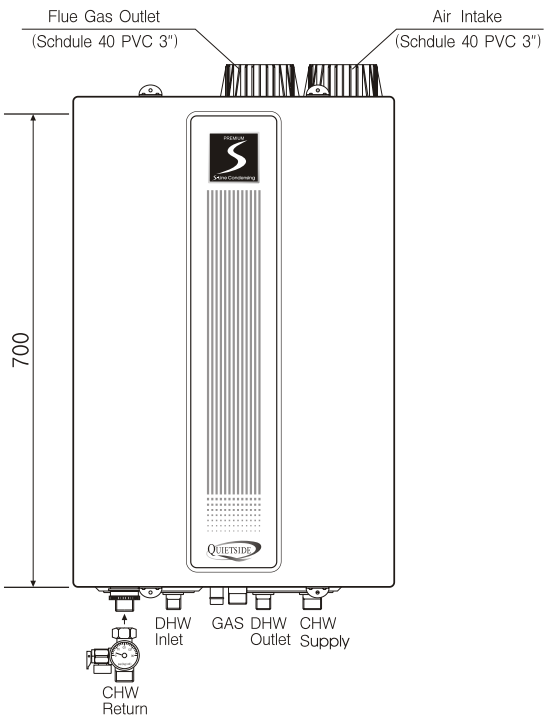


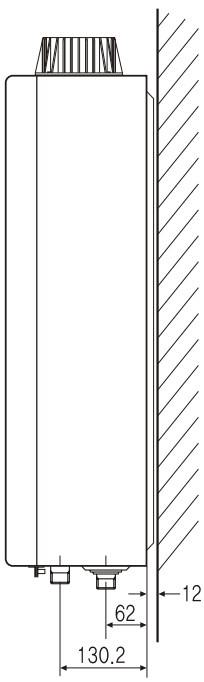
〈Condensate 'S' trap〉
〈Fig.1〉

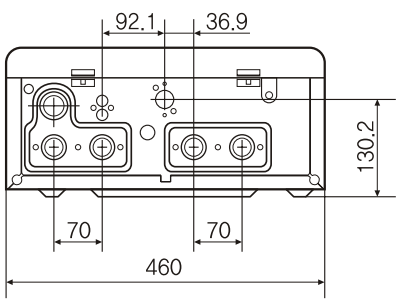
Symptom and Cause	Solution	Reference
1) If the condensate 'S' trap is blocked by debris etc., the error code "Ad" is displayed.	- Clean the condensate 'S' trap	〈Fig.1〉
2) If the flue gas outlet pipe is blocked, the error code "Ad" is displayed.	- "Ad" error can be appeared in case of blocked flue system and wind for flue terminal. - When the unit is running normally and the unit stops operation, the air pressure switch is "SHORT " circuit. In these case, if the resistance of air pressure switch is 0 Ohms, the air pressure switch is normal. But if the resistance shows infinity or no reading, the air pressure switch should be replaced.	

3 Outline diagram



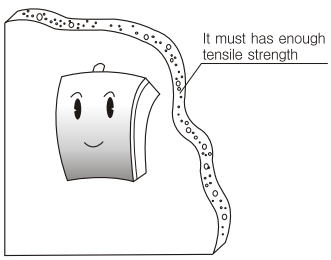






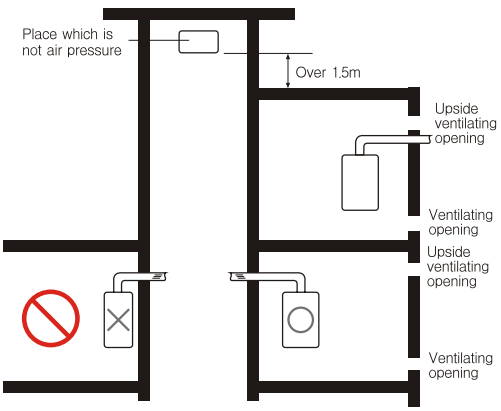
4 How to install

⚠ Warning



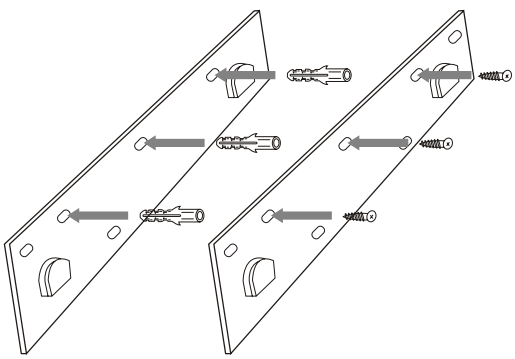
Please install on a durable wall.

- When install the product, about 31kg(66ℓb) is added on a wall. So if it is installed on not lasting wall, it may cause damages, submersion, gas leak and a fire by falling the product.
- If there is not enough strength to preserve the product, please do reinforcement work.
- The weight of the product is marked on 27page of this manual.



Please don't install on a group exhaust port wall.

- It may cause fall off the product due to an erosion of sticking screw(anchor bolt) by condensed water in the winter.
- It may cause damages, submersion, gas leak and a fire by falling the product.



Please fix the sticking clip strongly by using anchor bolt

- If the sticking clip is not strong enough, the appliance can fall.
- It may cause damages, submersion, gas leak and a fire by falling the product.

How to attach

1 The method of attaching sticking clip.

① Please mark attached position on the wall.

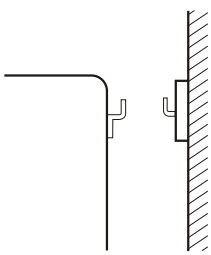
② Please make a hole around 5cm with hammer drill (ϕ 10) on the marked position and fix the sticking clip with wall plug

③ Please tighten the wall plug screw.

※Please use a horizontal ruler before tightening the wall plug screw then check the horizon. When the wall plug screw becomes horizon, please tighten it.

④ If add a buffer as rubber not to have vibration while operating, it is much better.

2 Please match a fixed sticking clip and a hasp in the back.

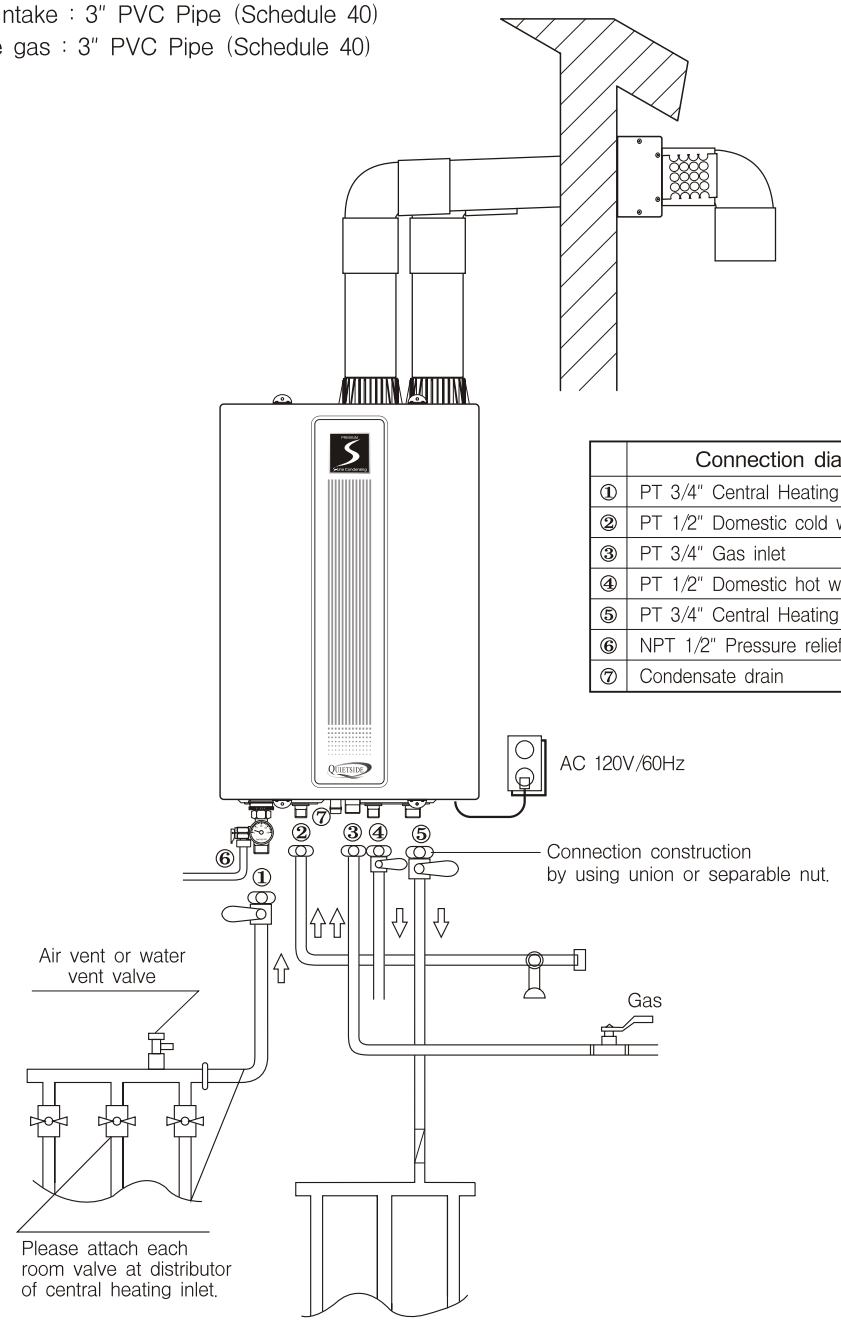


3 Please fix tight a bracket of the bottom portion of the product.

4 Please keep tight all pipes using teflon or packing.

5 Standard piping diagram

Air Intake : 3″ PVC Pipe (Schedule 40)
Flue gas : 3″ PVC Pipe (Schedule 40)

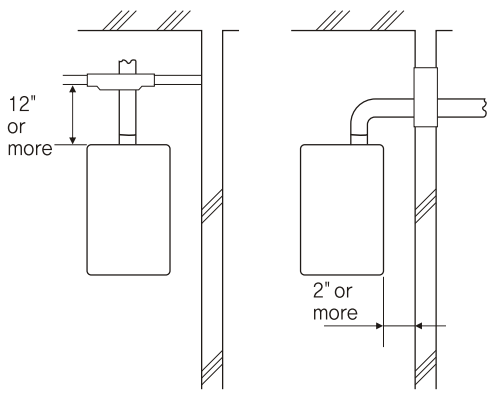
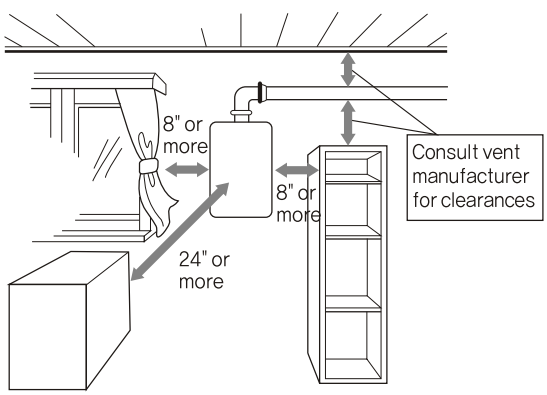
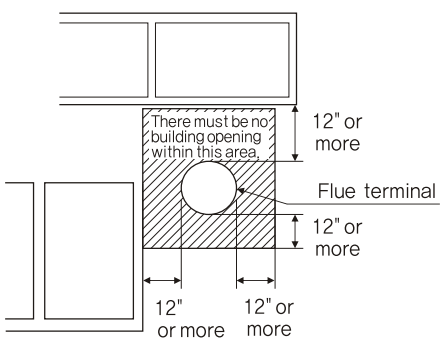


	Connection diameter
①	PT 3/4″ Central Heating Water inlet
②	PT 1/2″ Domestic cold water inlet
③	PT 3/4″ Gas inlet
④	PT 1/2″ Domestic hot water outlet
⑤	PT 3/4″ Central Heating Water outlet
⑥	NPT 1/2″ Pressure relief valve drain
⑦	Condensate drain

6 Installation Clearance

Before Installing, check for the following:

Install in accordance with relevant building and mechanical codes, as well as any local, state or national regulations.

<table>
<tr><th>Item</th><th>Check</th><th>Illustration</th></tr>
<tr><td>Distance from combustible</td><td>• Maintain the following clearances from both combustible and non-combustible materials.
<table><tr><td>Piping side(Bottom)</td><td>Min.12″</td></tr><tr><td>Front(Maintenance space)</td><td>Min.24″</td></tr><tr><td>Back of heater</td><td>1″</td></tr><tr><td>Sides of heater</td><td>2″</td></tr><tr><td>Top of heater</td><td>12″</td></tr></table></td><td> 
</td></tr>
<tr><td>Securing of space for repair/inspection</td><td>• If possible, leave 8″ or more on either side of the unit to facilitate inspection.
• If possible, leave 24″ or more in front of the unit to facilitate maintenance and service if necessary.</td><td> 
</td></tr>
<tr><td>Outdoor Clearance to Opening into Any Building</td><td>• There must be a clearance of 24″ or more in front of the Flue terminal.
• This restriction will not be applied to an area where an effective shield makes a clearance of 24″ or more in front of the exhaust outlet.</td><td> 
</td></tr>
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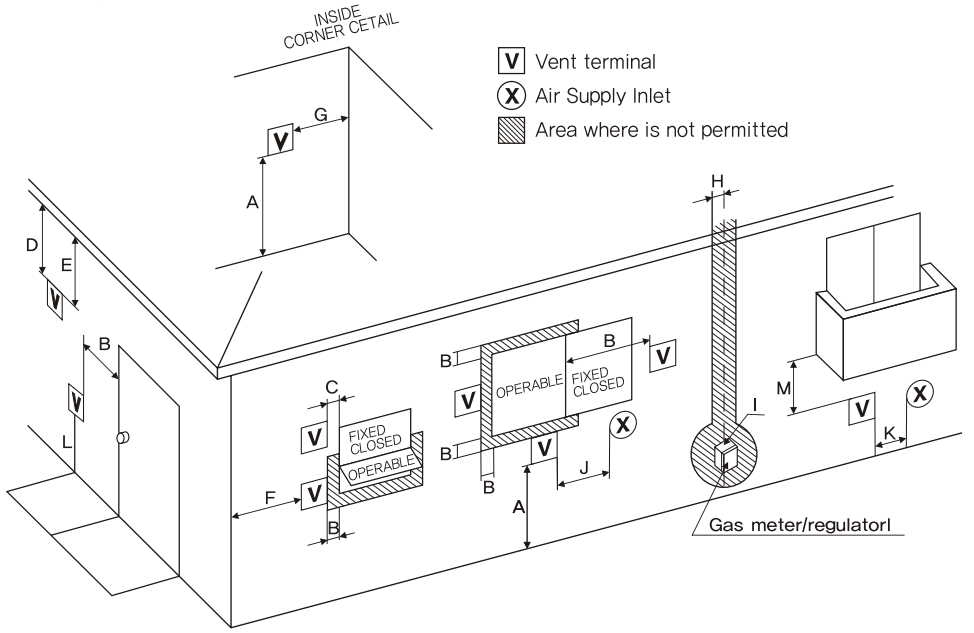
Clearance Requirements from Vent Terminations to Building Openings

* All Clearance requirements are in accordance with ANSI Z21.10.3 and the National Fuel Code, ANSI Z223.1.



	Clearance	
A	Above grade, veranda, porch, deck, or balcony	12″(12″)
B	Window or door that may be opened	12″(36″)
C	Permanently closed window	*
D	Vertical clearance to ventilated soffit located above the terminal within a horizontal distance of 2 feet from the center of the terminal.	*
E	Unventilated soffit	*
F	Outside corner	*
G	Inside corner	*
H	Each side of center line extended above meter/regulator assembly	3′ within a height 15′ above meter/regulator assembly
I	Service regulator vent outlet	3′
J	Nonmechanical air supply inlet or combustion air inlet to any other appliance	12″(36″)
K	Mechanical air supply inlet	3′ above if within 10′ (6′)
L	Above paved sidewalk or paved driveway located on public property	(7′ ***)
M	Under veranda, porch, deck, or balcony	* (12″ – Canada Only ****)

() = indicates clearances required in Canada.

* Maintain clearances in accordance with local installation codes and the requirements of the gas supplier

*** A vent shall not terminate directly above a sidewalk or paved driveway that is located between two single family dwellings and serves both dwellings.

**** Permitted only if veranda, porch, deck or balcony is fully open on a minimum of two sides beneath the floor.

7 Flue plumbing

⚠ Warning

- The venting system must be properly installed. Failure to properly install the vent system could result in property damage, personal injury, or death.
- Do not install damaged venting system components. If damage is evident then please contact the supplier where the water heater was purchased or the manufacture listed on the rating plate for replacement parts.
- Use only the vent terminals and vent/air intake components available for venting this appliance.
- Do not connect exhaust vent into an existing vent pipe or chimney.
- All of the exhaust venting connections must be leak checked with a soap solution upon initial start up of the appliance. Any leaks must be repaired before continuing operation of the appliance.
- Do not terminate the venting where noise from the exhaust or intake will be objectionable.
  This includes locations close to or cross from windows and doors. Avoid anchoring the vent and intake pipes directly to framed walls, floors, or ceilings unless rubber isolation pipe hangers are used. This prevents any vibrations from being transmitted into the living spaces.
- Do not exceed the venting distances or the number of elbows listed in this manual.
  Exceeding the maximum venting distances may cause the appliance to malfunction or cause an unsafe condition.

⚠ Caution

- The vent shall terminate a minimum of 12 inches above expected snowfall level to prevent blockage of the vent termination.

VENTING

The venting instructions must be followed to avoid restricted combustion or recirculation of flue gases. Such condition cause sooting or risks of fire and asphyxiation.

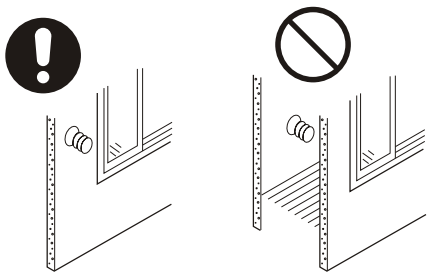
For DPW Model, PVC pipes can be used.

DPW	Models	Intake	3″ Schedule 40 PVC
		Flue Gas	3″ Schedule 40 PVC
		Maximum Number of 90 Deg Elbows : Three	

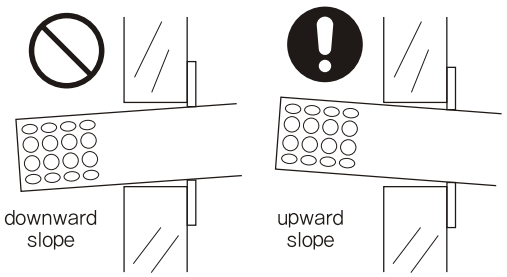
Vent Terminal Installation Precautions

Note the following vent terminal installation requirements

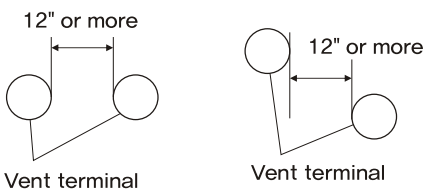
- Do not install the vent terminal indoors



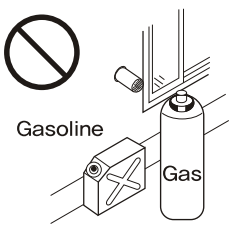
- Install the vent terminal with a upward slope (2~3°) – DPW 099A and DPW 120A



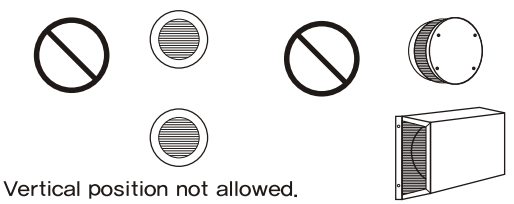
- If multiple units are installed, terminals must be separated by 12″ or more in a plain view regardless of the vertical clearance.



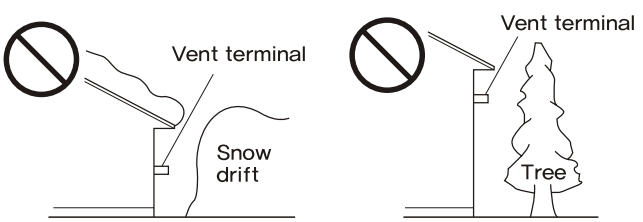
- Avoid installing the terminal where obstacles will block it



- Do not install the vent terminals vertically in-line. Do not cover the vent terminal with any type of protective screen or enclosure. In-line or blocked terminals can cause abnormal combustion resulting inundesired performance from the appliance.



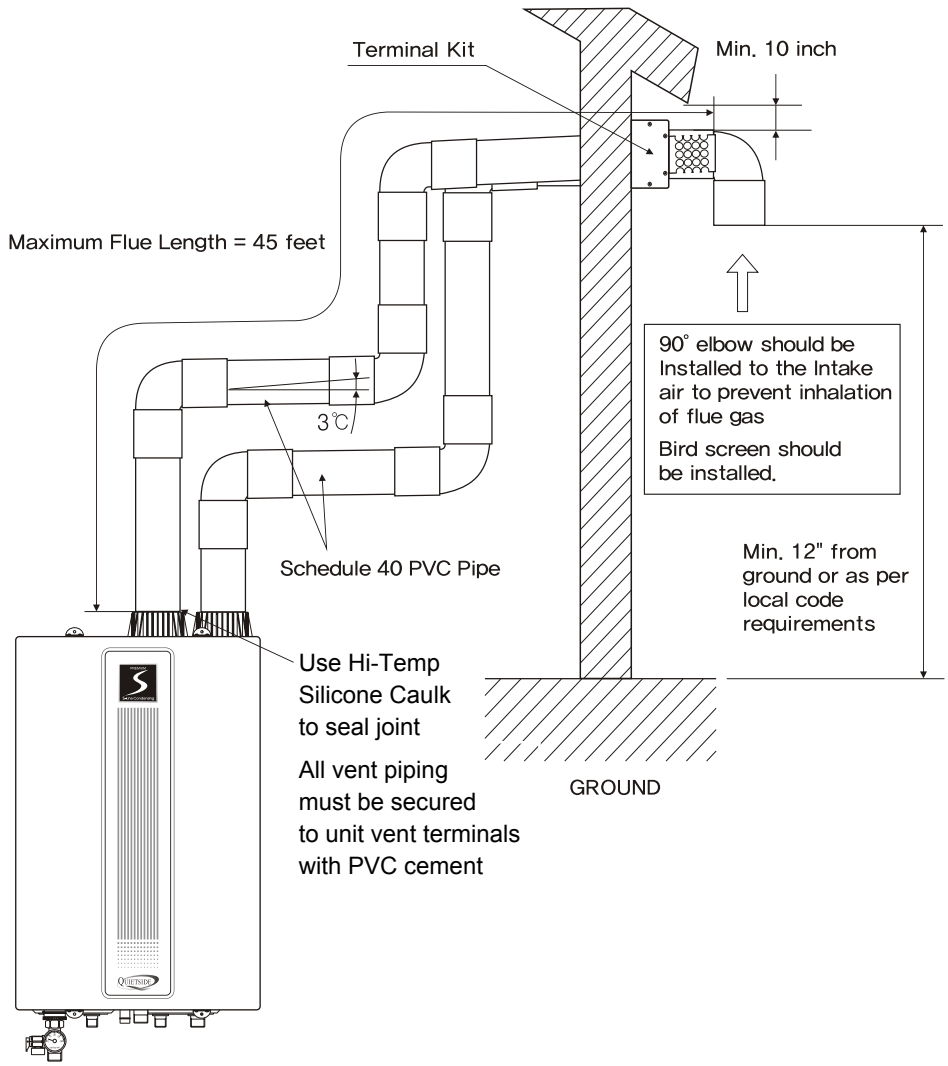
- Avoid storing hazardous objects near the terminal.



Typical (and recommended) Venting design

Note

1. DPW 099 & 120A : 3″ Schedule 40 PVC.
2. Maximum Three 90° Elbows.
3. Maximum Vent Length : 45 Feet Equivalent
3. Sloping up 2∼3°


Terminal Kit
Min. 10 inch
Maximum Flue Length = 45 feet
3℃
90° elbow should be Installed to the Intake air to prevent inhalation of flue gas
Bird screen should be installed.
Schedule 40 PVC Pipe
Min. 12" from ground or as per local code requirements
Use Hi-Temp Silicone Caulk to seal joint
All vent piping must be secured to unit vent terminals with PVC cement
GROUND

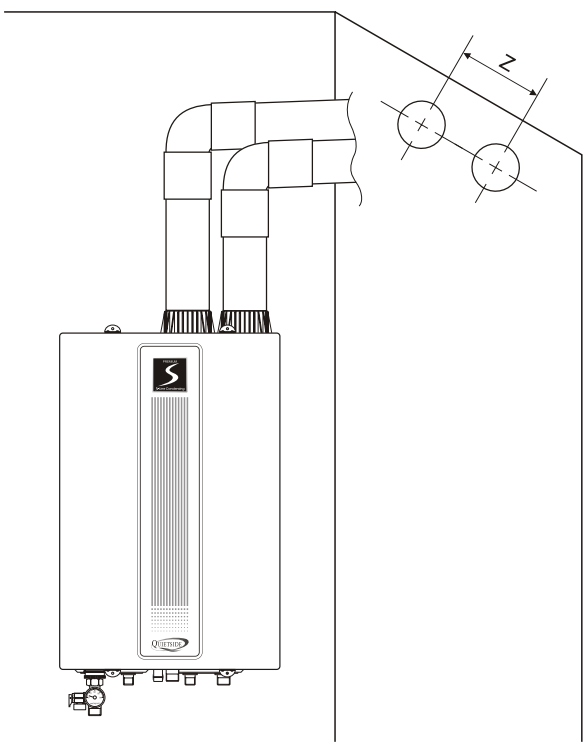
Installation of Venting System

1. Drill 2 holes. (Air intake hole and flue gas outlet hole)

2. The length between air intake pipe hole and flue gas pipe hole (Z) is different according to the model type.

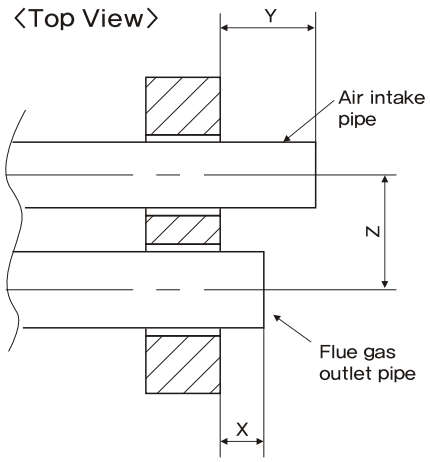
   The length, Z, is as following;

Model	Z
DPW 099A and 120A	115mm (4.53 inch)
	154mm (6.06 inch)

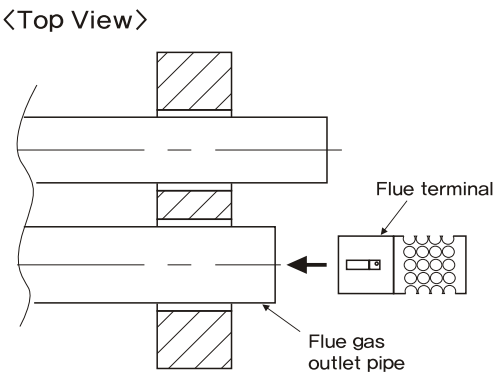


3. Insert the air intake and flue gas outlet PVC pipe.
   The lenght of PVC pipe from the wall is as following ;

Model	X	Y
DPW	50~60mm (1.97~2.36 inch)	120~130mm (4.72~5.12 inch)

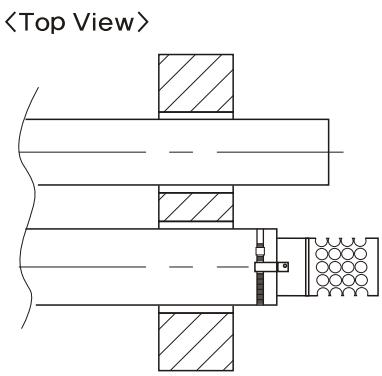


4. Insert the flue terminal into the flue gas outlet PVC pipe.



5. Fasten a flue terminal to the PVC pipe by using the Stainless band supplied.

   Use High Temp Silicone Caulk to seal Flue terminal to the PVC Flue Pipe

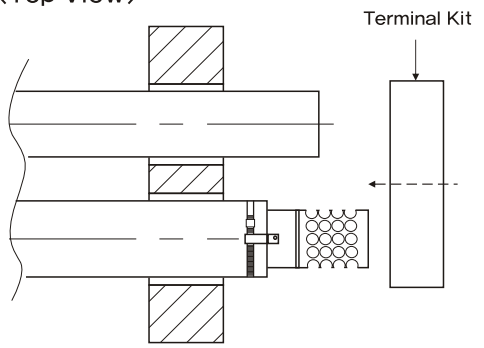


6. Insert the terminal kit to the air intake and flue gas outlet pipe.

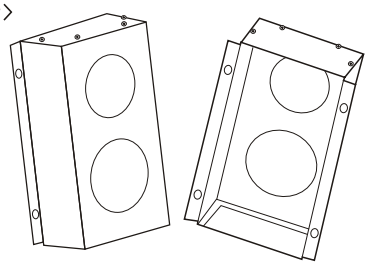
   Distinguish the air intake hole and flue gas outlet hole of terminal kit.

   The sticker for discriminating between air intake hole and flue gas outlet hole is adhered at the inside of terminal kit.

<Top View>

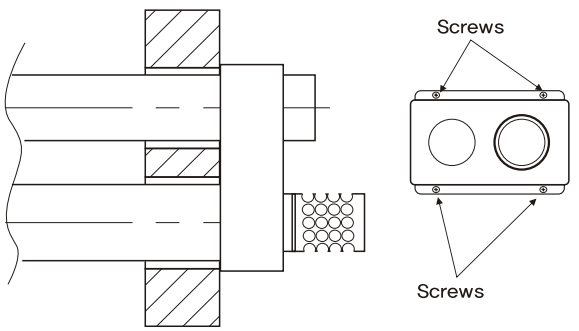


<Terminal Kit>



<Top View>

7. Fixing the terminal kit to the wall by using screws (4 points)

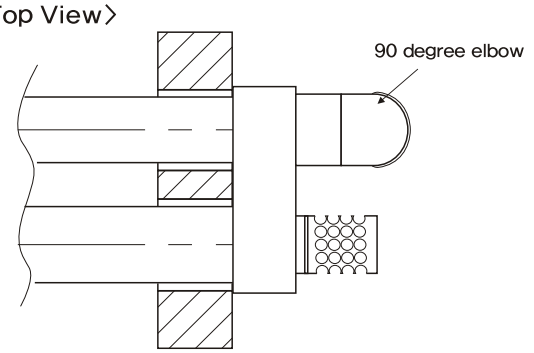


<Top View>

8. Insert the 90 degree PVC elbow to the air intake pipe.

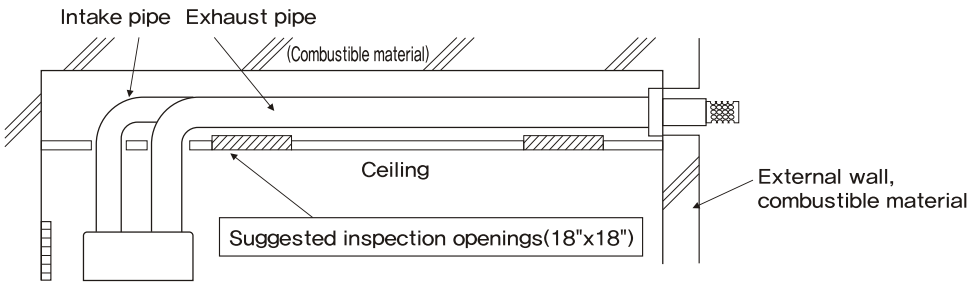
   The 90 degree PVC elbow must have a bird screen.

   The 90 degree PVC elbow have to turn towards down position to prevent indraft of water or snow.



When the intake/exhaust pipes pass through an enclosed space:

- Inspection openings are suggested for the vent intake and exhaust pipes if they are installed in an enclosure. Those openings should be near the entrance and exit of the vent into the enclosure.
- These openings should be 18" X 18".



Venting Precautions

- Maximum vent length

Number of 90 degree elbows	Maximum straight pipe distance (Vertical and Horizontal)	Maximum total equivalent feet(meters) of vent pipe
0	45	45 (13.7meters)
1	40	45 (13.7meters)
2	35	45 (13.7meters)
3	30	45 (13.7meters)

Each 90 degree elbow is equivalent to 5 feet in straight vent pipe length. Each 45 degree elbow is equivalent to 1.5 feet(0.46m) in straight pipe length. The total maximum equivalent vent pipe distance cannot 45 feet(13.7meters) for horizontal & vertical venting distance.

- Exceeding the maximum vent length is dangerous and may result in bad combustion.
- If possible, don't install the vent pipe through enclosed area. If necessary, consult the pipe manufacture's instructions for clearances.
- Install the vent terminal so that all exhaust is directed to and all intake air is taken from outdoors.
- Do not store hazardous or flammable substances near the vent terminal.
- For models, slop the intake pipe at 2~3° down towards the termination and slop the exhaust pipe at 2~3° up towards the termination.
- Connects the vent pipe firmly so that it will prevent exhaust gases from leaking.
- Steam or condensed water may drip out of the vent terminal. Dispose of this condensed water according to local codes and in order to prevent injury or property damage.
- If this product will be installed in an area where snow is known to accumulate, protect the vent termination from blockage by snow drifts or damage from snow falling off of roofs.
- Support the vent pipe with hangers at 3ft intervals.
- Install the vent terminal so that it is easily accessible for maintenance both from the indoors and the outdoors.
- Make the vertical pipe as short as possible.

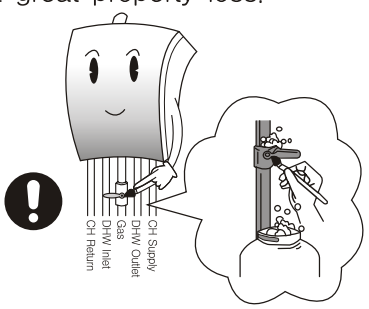
8 Gas plumbing

■ Gas piping to the unit should only be installed by a qualified contractor, licensed and certified where applicable

⚠ Warning

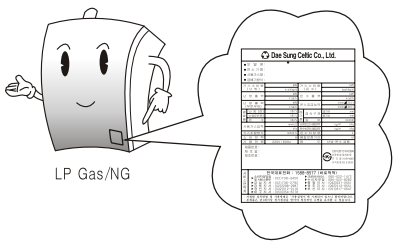
After gas plumbing, please check the gas leak.

- When there is gas leak, it may cause serious bodily injury and a great property loss.



Please check whether the type of gas specified in the product and the supplied gas match.

- If it don't match indicated on the rating plate located on the front case of appliance, it may cause a fire and explosion from imperfect combustion.



■ **Please meet the standard requirement of the gas pipe.**

- Please use metallic flexible hose for gas pipe being approved as metal pipe.
- If don't use standard product, it may cause a fire or explosion by gas leak.

■ **Please don't use gas pressure as described.**

- It may cause damage on the product and a fire.

■ **Please close shut-off valve and use gas pressure as described while gas leak checking.**

- It may cause a fire and an explosion.

Pipe Sizing Example:

This table below is for Natural Gas piping supply straight to the appliance without any tabs to other gas appliances.

Recommended Gas Pipe Size for DPW models Water Heater for dual purpose (Example for NG)	
Distance from Gas Meter	Pipe Size
0'-20'	3/4"
30'-80'	1"
90'-200'	1-1/4"

Natural Gas Supply Piping

Maximum Capacity of Natural Gas Based on a 0.60 specific gravity at a 0.5" WC pressure drop

Pipe Size	kBTU of Natural Gas												
Length	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	125'	150'	200'
3/4"	372	255	205	175	156	142	130	121	114	107	95	86	74
1"	702	482	387	331	293	266	245	228	213	202	179	162	139
1 1/4"	1441	990	795	680	603	546	503	468	439	415	367	332	285
1 1/2"	2158	1483	1191	1019	903	819	753	701	658	621	550	499	427
2"	4155	2856	2293	1963	1740	1576	1450	1349	1266	1195	1060	960	822

Propane(LP) Gas Supply Piping

Maximum Capacity of propane(LP) Gas Based on 11" WC supply pressure at a 1.0" WC pressure drop

Pipe Size	kBTU of Natural Gas												
Length	10'	20'	30'	40'	50'	60'	70'	80'	90'	100'	125'	150'	200'
3/4"	567	393	315	267	237	217	196	185	173	162	146	132	112
1"	1071	732	590	504	448	409	378	346	322	307	275	252	213
1 1/4"	2205	1496	1212	1039	913	834	771	724	677	630	567	511	440
1 1/2"	3307	2299	1858	1559	1417	1275	1181	1086	1023	976	866	787	675
2"	6221	4331	3465	2992	2646	2394	2205	2047	1921	1811	1606	1496	1260

TO TURN OFF GAS TO APPLIANCE

1. Turn off all electric power to the appliance if service is to be performed.
2. Turn the manual gas valve located on the outside of the unit clockwise to the off position.(This unit has a switch(gas cut-off device) on junction box in the appliance, locate the switch button to off position)

FOR YOUR SAFETY, READ BEFORE OPERATING:

1. This appliance does not have a pilot. It is equipped with an electronic ignition device that automatically lights the burner. Do not try to light the burner manually;
2. Before operating, check all around the appliance area for gas leaks. Be sure to check next to the floor as some gases are heavier than air and will settle on the floor;
3. Use only your hand to turn the gas valve knob. Never use tools. If the knob will not turn by hand, do not attempt to repair it. Call a qualified service technician. For or attempted repair may result in a fire or explosion.

- Check that the type of gas matches the rating plate located on the cover of your appliance.

- The minimum and maximum inlet gas pressure are :

Natural Gas	Min. 3.5" WC - Max. 10.5" WC
Propane Gas	Min. 8" WC - Max. 13" WC

- Gas pressure below this specified range for the DPW models and/or insufficient gas volume will adversely affect performance. Inlet gas pressure must not exceed the above maximum values; gas pressure above the specified range will cause dangerous operating conditions and damage to the unit. Until testing of the main gas line supply pressure is completed, ensure the gas line to the DPW models is disconnected to avoid any damage to the appliance.

- Size the gas pipe appropriately to supply the necessary volume of gas required for the DPW models using ANSI 233.1/NAPA 54 in the USA or CAN/CSA B149.1 in Canada or local codes. Install a manual gas shut-off valve between the DPW models and the gas supply line. When the gas connections are completed, it is necessary to perform a gas leak test either by appling soapy water to all gas fittings and observing for bubbles or by using a gas leak detection device. Always purge the gas line of any debris before connecting to the appliance gas inlet.

Domestic hot water plumbing

This appliance is suitable for potable water and space heating applications.
Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and replace any part of the control system and gas control which has been under water.

A pressure relief valve is installed in this dual purpose water heater that is rated in accordance with and complying with either The Standard for Relief Valves and Automatic Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22 or The ANSI/ASME Boiler and Pressure Vessel Code, Section Ⅳ (Heating Boilers).
The relief valve must be installed such that the discharge will be conducted to a suitable place for disposal when relief occurs. The discharge line must be installed to allow complete drainage of both the valve and the line. If this unit is installed with a separate storage vessel, the separate vessel must have its own temperature and pressure relief valve. This valve must also comply with The Standard for Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems, ANSI Z21.22 (in the U.S. only). A temperature relief valve is not required, but if one is used, do not install the valve with the probe directly in the flow of water. This may cause unwarranted discharge of the valve.

Piping and components connected to the appliance shall be suitable for use with potable water.
Toxic chemicals, such as those used for boiler treatment, shall not be introduced into the potable water. A water heater used to supply potable water may not be connected any heating system or components previously used with a nonpotable water heating appliance. When the water is required in one part of the system at a higher temperature than in the rest of the system, means such as a mixing valve shall be installed to temper the water to reduce the scald hazard.

- Do not reverse the inlet and outlet (cold and hot water) connections on the appliance. This may cause a hazardous operating condition or the appliance may be inoperable.
- Flush water through the pipe to clean out metal powder, sand and dirt before connecting it.
- Take appropriate heat insulation measures (e.g., wrapping with heat insulation materials, using electric heaters) according to the climate of the region to prevent the pipe from freezing.
- Use a union coupling or flexible pipe for connecting the pipes to reduce the force applied to the piping.
- Do not use piping with a diameter smaller than the coupling.
- When feed water pressure is too high, insert a depressurizing valve, or take water hammer prevention measures.
- Avoid using joints as much as possible to keep the piping simple.
- Avoid piping in which an air holdup can occur.
- Use approved piping materials.

10 Electric Wiring

⚠ Warning

- Turn off or disconnect the electrical power supply to the appliance before servicing.
  Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.
- All electrical wiring must be installed and grounded in accordance with local codes, or in the absence of local codes, the National Electrical Code. ANSI/NFPA 70 and/or CSA 22.2 Electrical Code.

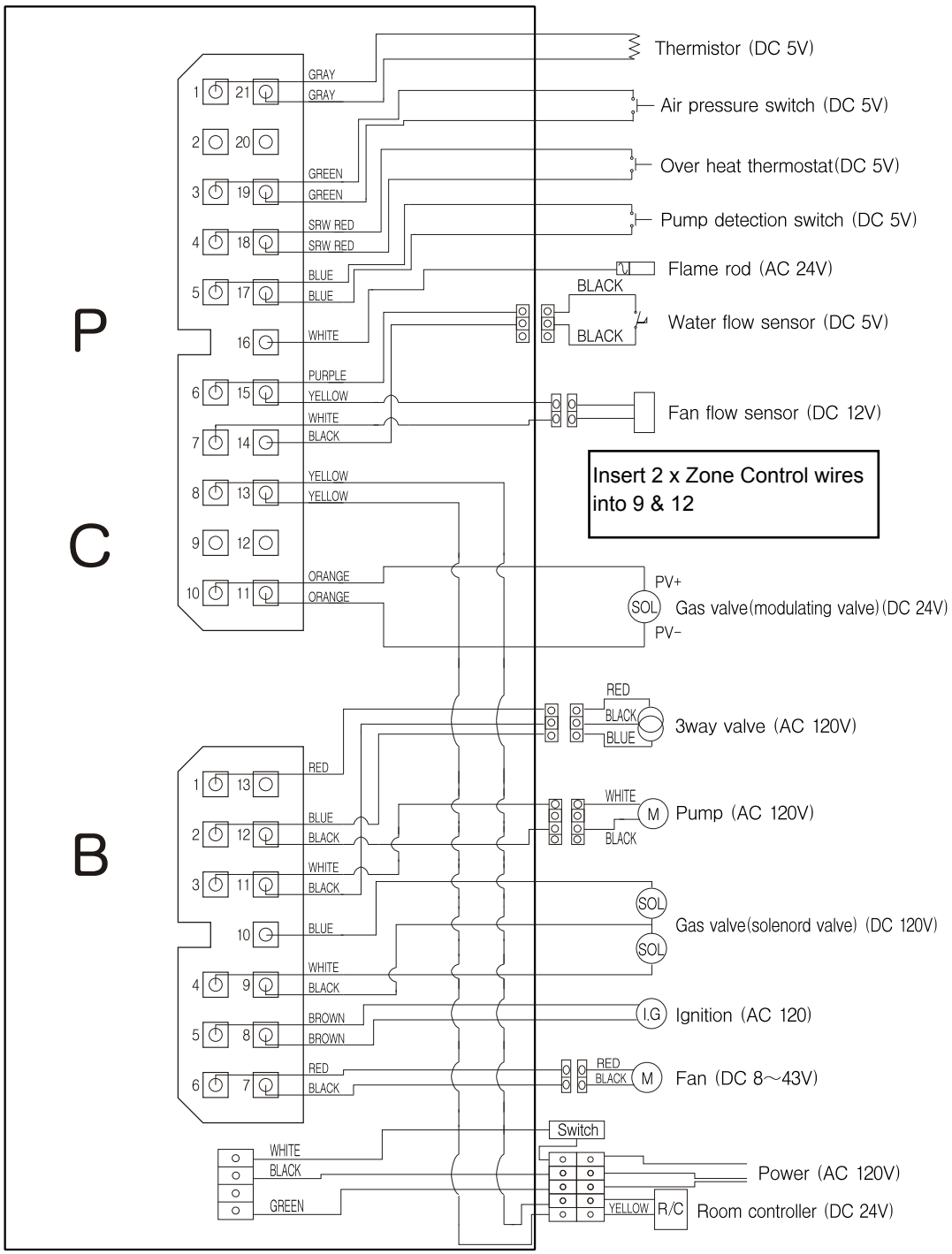
The appliance must be wired to a 120 VAC, 60Hz.

If wiring in conduit is required, install an electrical conduit connector.
A disconnect switch should be provided near the appliance for servicing.
Connect the wires exactly as shown in the wiring diagram of this manual and on the inside cover panel.

⚠ Caution

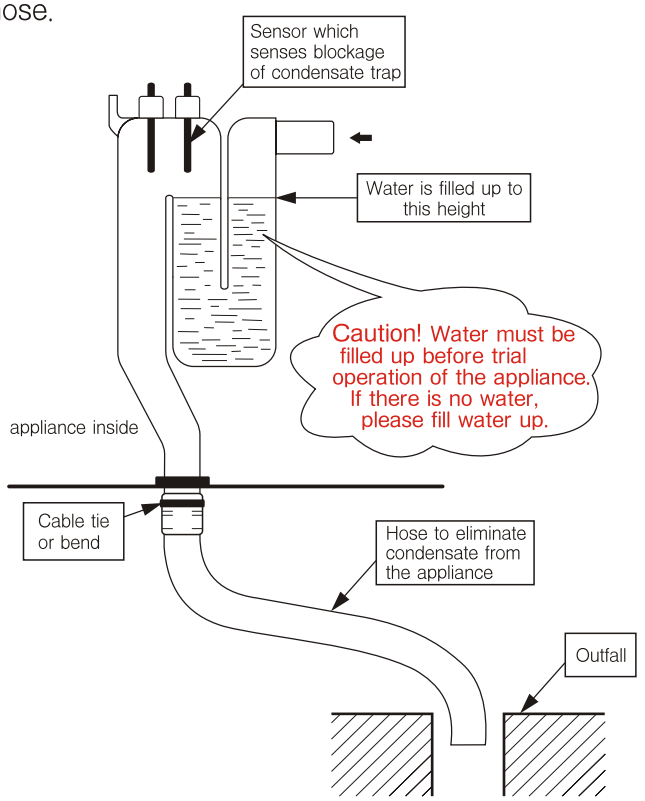
- Do not energize the electric circuit before the water heater tank is filled with water
- Do not turn on the power until the electrical wiring is finished.
- Do not disconnect the power supply when not in use. When the power is off, the freeze prevention in the appliance will not activate, resulting in possible freezing damage.
- Do not let power wiring contact the gas piping

Tie the redundant power cord outside the water heater.


P
C
B
Thermistor (DC 5V)
Air pressure switch (DC 5V)
Over heat thermostat(DC 5V)
Pump detection switch (DC 5V)
Flame rod (AC 24V)
Water flow sensor (DC 5V)
Fan flow sensor (DC 12V)
Insert 2 x Zone Control wires into 9 & 12
Gas valve(modulating valve)(DC 24V)
3way valve (AC 120V)
Pump (AC 120V)
Gas valve(solenord valve) (DC 120V)
Ignition (AC 120)
Fan (DC 8~43V)
Power (AC 120V)
Room controller (DC 24V)
GRAY
GREEN
SRW RED
BLUE
WHITE
PURPLE
YELLOW
BLACK
ORANGE
RED
BROWN
Switch
R/C
PV+
PV-
SOL
M
I.G

11 Condensate Discharge

1. Condensing gas water for dual purpose needs discharge in the appliance due to condensed water.
2. Please connect in reserve condensed water discharge hose to condensed water trap and please tie them with cable tie or hose band.
3. Please put the end of hose into sewers or discharge.
4. **Condensed water trap in the appliance always should be full of water. Please check it is full or not when operate again after not using for a while.**
5. Please supply water in a condensed water trap through pipe connection or condensed water rubber pipe.
   ⚠ Caution : ① Please connect condensed water rubber pipe as it was when supply through this pipe.
   ② Please be careful not to splash to other parts when supply water.
6. Please don't use condensed water as drinking water.
7. Please clean condensed water trap more than once in a year.
8. Please untie a fixing screw and hose band when clean and please clean a rubber hose separately.
9. Please make a measurement to prevent freezing when install condensed water discharge hose.


Sensor which senses blockage of condensate trap
Water is filled up to this height
Caution! Water must be filled up before trial operation of the appliance. If there is no water, please fill water up.
appliance inside
Cable tie or bend
Hose to eliminate condensate from the appliance
Outfall

DPW Dip Switch Settings

Depending on the application of the DPW unit it may be necessary to alter the Dip Switch settings from the standard positions

The unit has 5 Dip Switches located on the Microprocessor

Dip Switch	Standard Setting	Controls
1	ON	Fuel Gas Type
2	OFF	Fuel Gas Type
3	OFF	Unit Options
4	OFF	Forced Maximum Firing rate
5	OFF	Forced Minimum Firing rate

Setting for Natural Gas Operation

Dip Switch	Setting for NG
1	ON
2	OFF

Setting for LP Gas Operation

Dip Switch	Setting for LP
1	OFF
2	ON

Unit Options

Switch Dip Switch #3 to ON

On DSR-100F press the Timers and Anti Freeze buttons simultaneously for 5 seconds. This will allow unit to enter the programming mode

Temperature display can be changed between DegF and DegC by pressing the Timer button 3 times until Lc is displayed in the top RH corner of the unit display, and f is displayed in the center of the screen

Press the Up temperature arrow and the f will change to a c

Hit the Power On/Off button to exit and switch Dip Switch #3 to OFF, the unit will now display in DegC

Cont

Zone Control
This can be also be set up using this control (see zone control wiring section for more detail)

Maximum Firing Rate

Setting Dip Switch #4 to ON will lock the unit into the maximum firing rate at all times. This is occasionally used for troubleshooting and gas pressure set up purposes. Move the switch back to OFF to allow the unit to modulate capacity

Minimum Firing Rate

Setting Dip Switch #5 to ON will lock the unit into the minimum firing rate at all times. This is occasionally used for troubleshooting and gas pressure set up purposes. Move the switch back to OFF to allow the unit to modulate capacity.

Specific requirements for installation in Massachusetts

In the Commonwealth of Massachusetts these units must be installed by a licensed gas fitter or plumber

Venting :
For the Quietside models DPW-099A, DPW-120A where the bottom of the vent termination and combustion air intake is installed at a height **BELOW** 4 ft above the grade level the following requirements must be satisfied

1. If there is not one presently installed, on each floor level where there is a bedroom(s), a Carbon Monoxide detector and alarm shall be installed in the living area outside the bedroom(s). The Carbon Monoxide detector shall comply with NFPA 720 (2005 Edition)

2. A Carbon Monoxide detector shall be installed in the room where the ODW unit is installed, the detector shall be :

a) Powered from the same power circuit that provides power for the ODW unit. A single electrical service switch shall be used to service both the unit and the detector
b) Have battery back up power
c) Meet ANSI/UL std 2034 and comply with NFPA 720 (2005 Edition)
d) Approved and listed by a NRTL recognized under 527 CMR

3. A Quietside approved vent termination must be used. Installation of the vent terminal must be in strict compliance with Quietside's written instructions, and a copy of these instructions must remain with the unit after the installation is completed.

4. A metal or plastic identification plate shall be mounted on the exterior of the building, 4ft above the vent termination. The plate shall read "**Gas Vent Directly Below**" with text size visible from a minimum of 8ft.

Cont

For the Quietside models listed above where the bottom of the vent termination and combustion air intake is installed at a height of 4ft **ABOVE** the grade level the following requirements must be satisfied

1. If there is not one presently installed, on each floor level where there is a bedroom(s), a Carbon Monoxide detector and alarm shall be installed in the living area outside the bedroom(s). The Carbon Monoxide detector shall comply with NFPA 720 (2005 Edition)

2. A Carbon Monoxide detector shall be installed in the room where the ODW unit is installed, the detector shall be :

a) Powered from the same power circuit that provides power for the ODW unit. A single electrical service switch shall be used to service both the unit and the detector
b) Have battery back up power
c) Meet ANSI/UL std 2034 and comply with NFPA 720 (2005 Edition)
d) Approved and listed by a NRTL recognized under 527 CMR

3. A Quietside approved vent termination must be used. Installation of the vent termination must be in strict compliance with Quietside's written instructions, and a copy of these instructions must remain with the unit after the installation is completed.

Vent Termination requirements
As the DPW unit is a condensing product

The Vent for all Quietside DPW units shall not terminate

Over Public Walkways; or

Near soffit vents or crawl space vents or other area where condensate or vapor could create a nuisance or hazard or cause property damage; or

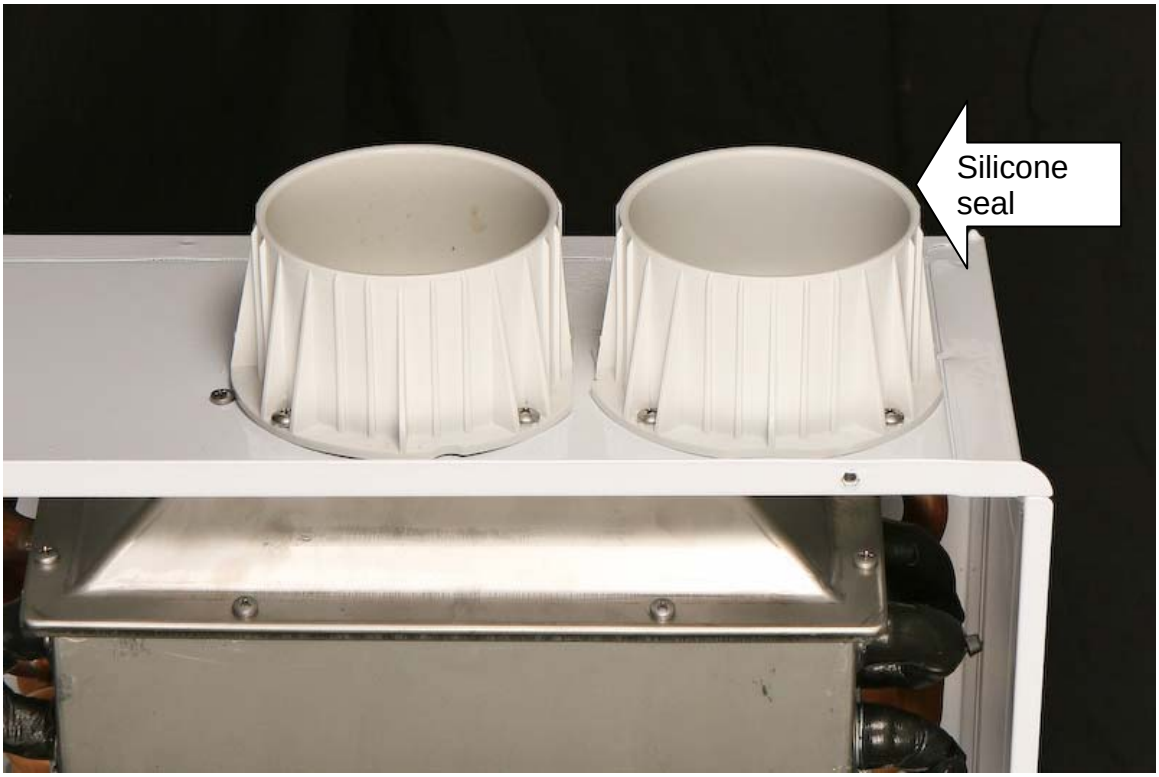
Where condensate or vapor could cause damage or could be detrimental to the operation of regulators, relief valves, or other equipment

Specific requirements for installation in Canada

The provinces of Ontario and Alberta have adopted standard ULC S636 requiring the following additional items to be noted.

1. Maximum flue temperature as tested is 136 DegF, allowing these units to be vented with Schedule 40 PVC under the regulation of ULC S636.

2. Under the new requirements of ULC S636 regarding vent connections to the unit, Quietside requires the Schedule 40 Vent piping to be secured to the unit using approved PVC cement, following the cement manufacturers instructions regarding methodology and curing time. A bead of high temperature silicone should be also run around the joint to ensure no leaks can occur.



Combustion and Leak Testing of DPW units

As the front cover of the unit is mechanically attached and cannot be removed in operation without the use of a tool, it is not permissible to conduct combustion testing or leak testing of the unit with the front cover removed.

Combustion testing must be achieved by using a calibrated combustion tester, with the probe inserted either in the flue exhaust of the vent termination or it is permissible to take reading by accessing the flue pipe approximately 12” above the unit, providing adequate provisions are made for sealing any access after testing to ensure no leakage of flue gases into the occupied space.

Leak testing must take place with the end of the “sniffer probe” at least 1” from any surface of the unit to ensure that false readings cannot be obtained.

Auto Fill – Closed Loop System

The DPW unit is fitted with a MANUAL Auto Fill valve, supplied in the closed position.

The Fill Valve is not pressure regulated therefore care must be used when opening the valve to prevent overfilling of the closed loop system and opening of the pressure relief valve.

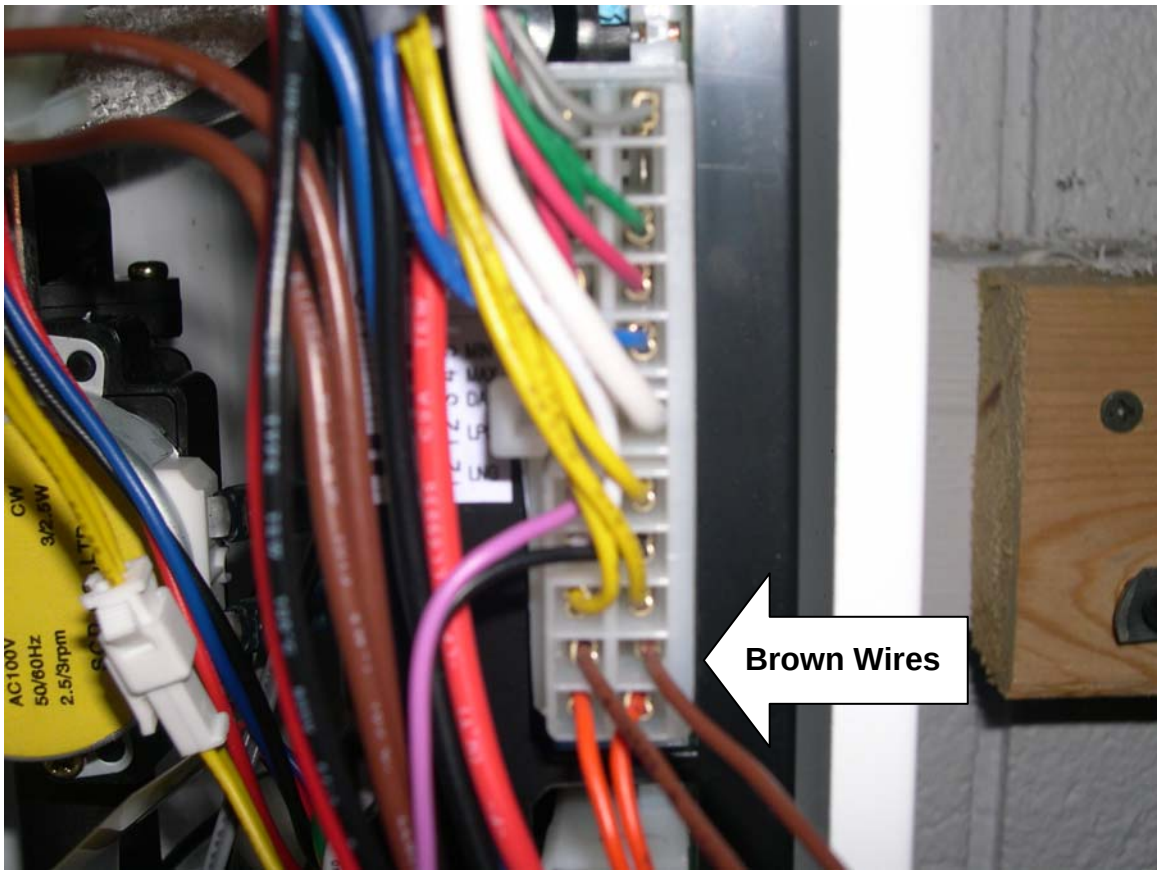
Quietside recommends that the valve be left in the closed position and an external Boiler Feed Valve e.g. Taco 335/329 be installed in the piping system to maintain an even pressure in the closed loop system

Manual Auto Fill Valve located on base of cabinet

Zone control of DPW unit

Zone control of the DPW unit is performed by a zero voltage or X-X contact from a relay or zone control panel closing when unit operation is required.

You will find two brown wires attached to the upper Molex connector of the main PC board. These wires can be extended with 18 gauge thermostat wire and only connected to dry contacts from your zone control panel end switch. See example wire diagrams on the last four pages of this manual.



Anti Freeze & Freeze Protection

For Anti Freeze protection in the Quietside units the following products are recommended
“No Burst”
“Fernox Alphii”

The maximum concentration allowed is 30% by volume which will protect the unit down to approximately 5 DegF or -11 DegC

Pump Curves & Primary – Secondary Piping

The DPW units include a pump assembly that is used to provide the flow through the unit heat exchangers, and has a nominal flow of heating water for external piping arrangements.

This pump is not designed to be the system pump providing flow to radiant loops or baseboard.

Therefore Quietside insists on using a Primary – Secondary pumping arrangement, the recommended method uses the traditional large diameter Primary loop

The main circulation pump or the zone pumps will then provide circulation into the zones or the heating system

The only exception to this Primary – Secondary rule is for Air Handling units with a hot water coil where the Air Handling unit is located less than 10ft from the DPW unit.

Unit Controls & Zoning

A DSR-100F Controller is provided with the unit.

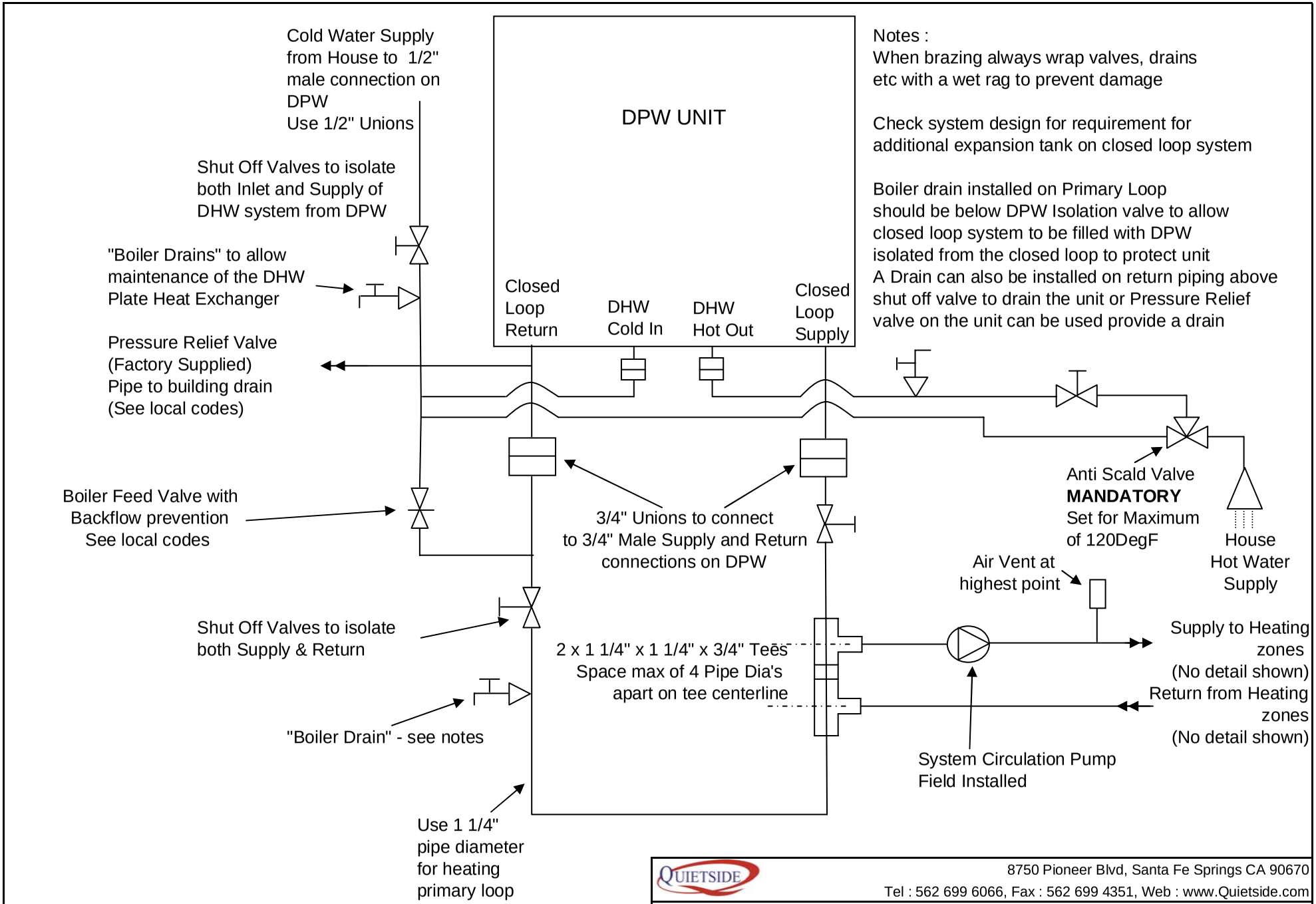
This is not used as a thermostat, but is a unit controller and should be mounted adjacent to the DPW unit. It is connected to the DPW via the 2 Yellow wires and is powered by 20V DC.

The DSR controller allows both the heating loop and DHW water temperatures to be set

When the unit is started using the X – X or dry contacts on the microprocessor it will operate and provide heating loop water at the set temperature until the zone(s) are satisfied. If a DHW call is experienced during heating operation the unit will automatically switch over to provide DHW.

DO NOT APPLY 24V AC OR LINE VOLTAGE TO THE X – X CONTACTS UNIT MICROPROCESSOR WILL FAIL IF IT RECEIVES 24V AC OR LINE VOLTAGE ON THESE CONTACTS

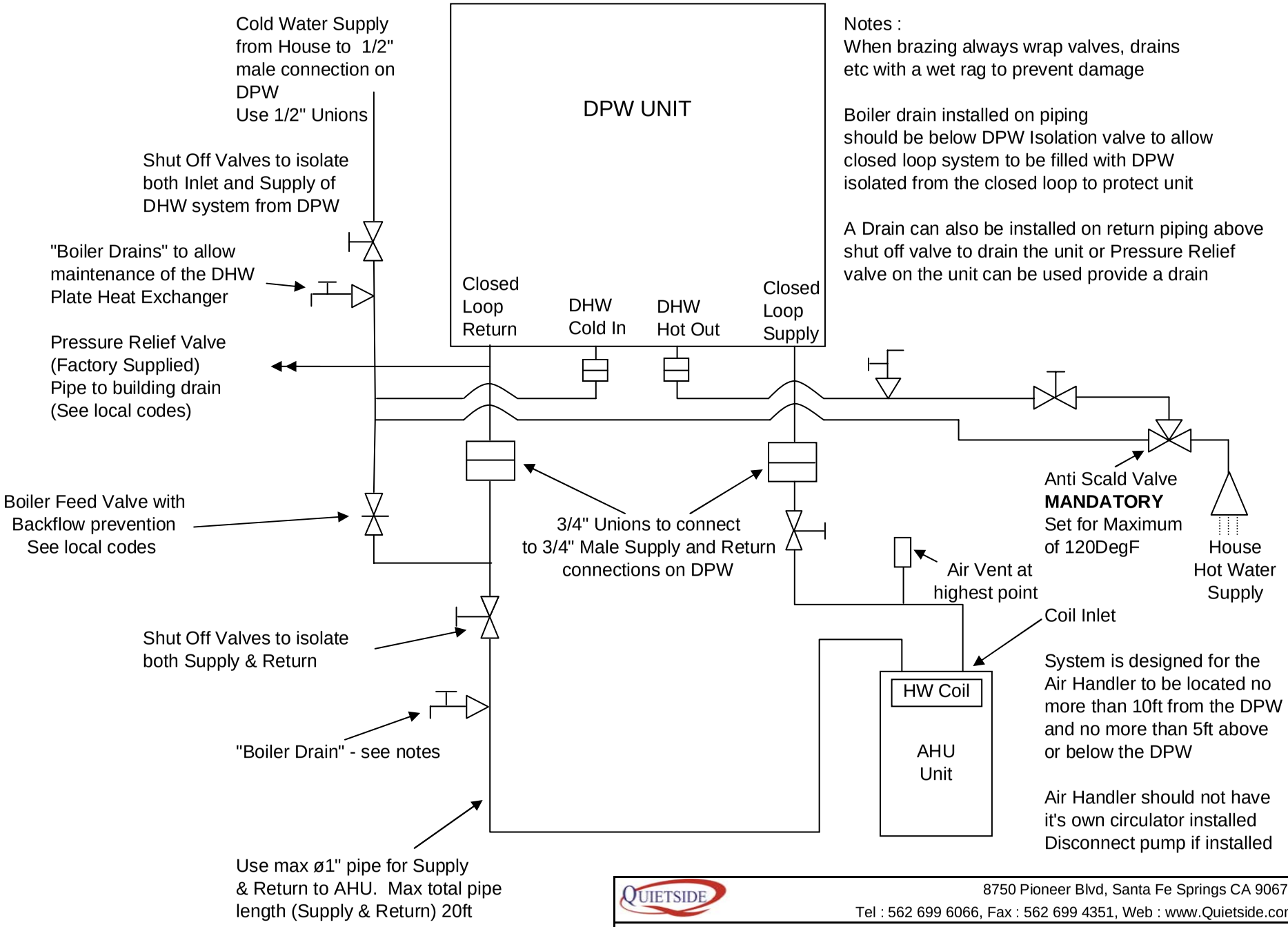
It is not permissible to power the secondary loop pump from the Primary loop pump installed in the unit.
Power for the Secondary loop pump should come from a switching relay e.g Taco SR501


Cold Water Supply from House to 1/2" male connection on DPW
Use 1/2" Unions
Shut Off Valves to isolate both Inlet and Supply of DHW system from DPW
"Boiler Drains" to allow maintenance of the DHW Plate Heat Exchanger
Pressure Relief Valve (Factory Supplied) Pipe to building drain (See local codes)
DPW UNIT
Closed Loop Return
DHW Cold In
DHW Hot Out
Closed Loop Supply
Notes :
When brazing always wrap valves, drains etc with a wet rag to prevent damage
Check system design for requirement for additional expansion tank on closed loop system
Boiler drain installed on Primary Loop should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit
A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain
Boiler Feed Valve with Backflow prevention See local codes
3/4" Unions to connect to 3/4" Male Supply and Return connections on DPW
Anti Scald Valve **MANDATORY** Set for Maximum of 120DegF
House Hot Water Supply
Air Vent at highest point
Shut Off Valves to isolate both Supply & Return
2 x 1 1/4" x 1 1/4" x 3/4" Tees Space max of 4 Pipe Dia's apart on tee centerline
Supply to Heating zones (No detail shown)
Return from Heating zones (No detail shown)
"Boiler Drain" - see notes
System Circulation Pump Field Installed
Use 1 1/4" pipe diameter for heating primary loop

QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW Recommended Piping Layout, Heating & DHW

Drg # : QUI-DPWP-001	Drawn : JLM 8/26/2008	Rev : 001


Cold Water Supply from House to 1/2" male connection on DPW
Use 1/2" Unions
Shut Off Valves to isolate both Inlet and Supply of DHW system from DPW
"Boiler Drains" to allow maintenance of the DHW Plate Heat Exchanger
Pressure Relief Valve (Factory Supplied) Pipe to building drain (See local codes)
Boiler Feed Valve with Backflow prevention See local codes
Shut Off Valves to isolate both Supply & Return
"Boiler Drain" - see notes
Use max ø1" pipe for Supply & Return to AHU. Max total pipe length (Supply & Return) 20ft
DPW UNIT
Closed Loop Return
DHW Cold In
DHW Hot Out
Closed Loop Supply
3/4" Unions to connect to 3/4" Male Supply and Return connections on DPW
Air Vent at highest point
Anti Scald Valve
MANDATORY
Set for Maximum of 120DegF
House Hot Water Supply
Coil Inlet
HW Coil
AHU Unit
Notes :
When brazing always wrap valves, drains etc with a wet rag to prevent damage
Boiler drain installed on piping should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit
A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain
System is designed for the Air Handler to be located no more than 10ft from the DPW and no more than 5ft above or below the DPW
Air Handler should not have it's own circulator installed Disconnect pump if installed

QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW Recommended Piping Layout, AHU (No Pump) & DHW

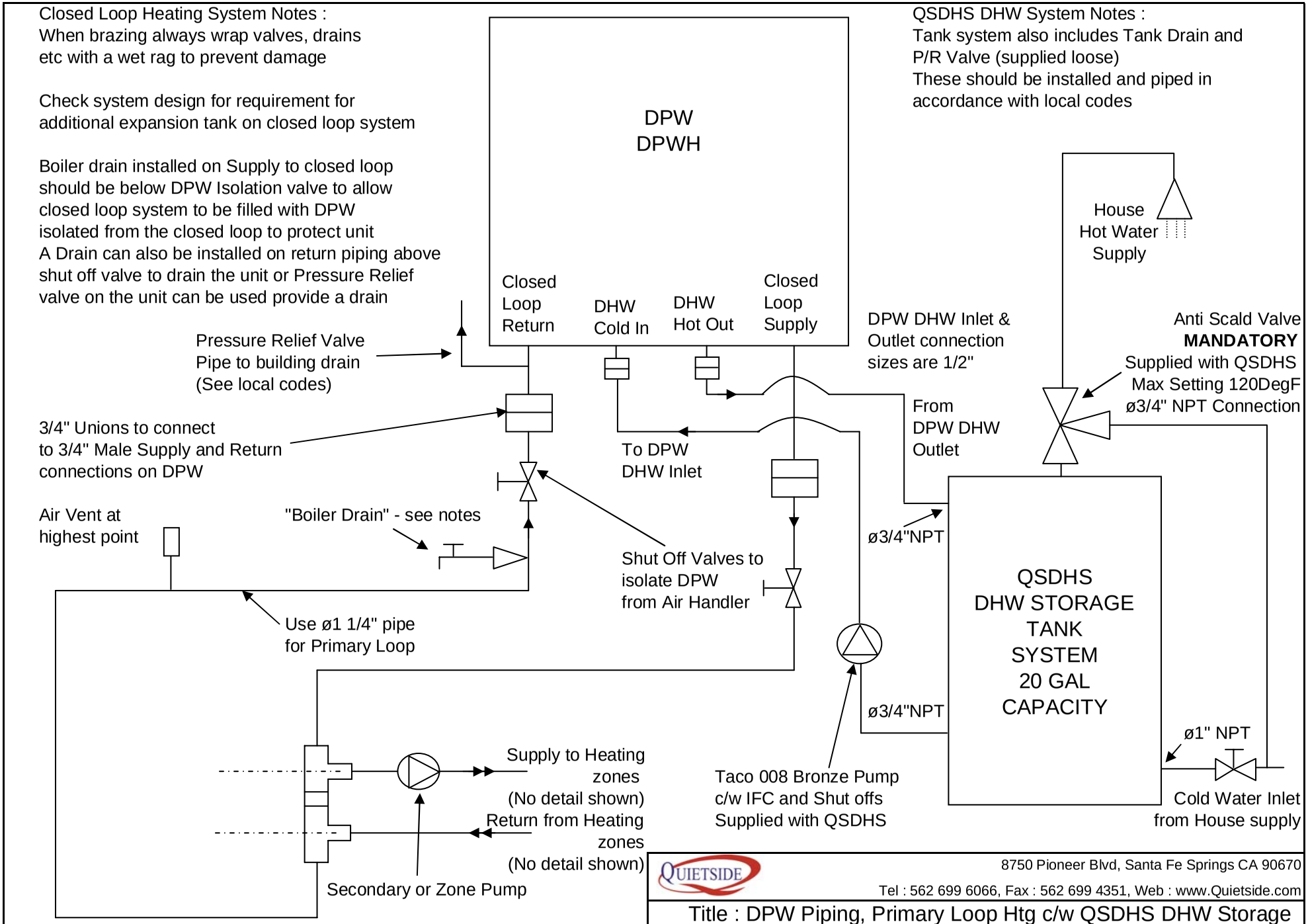
Drg # : QUI-DPWP-002	Drawn : JLM 8/26/2008	Rev : 001

Closed Loop Heating System Notes :
When brazing always wrap valves, drains etc with a wet rag to prevent damage

Check system design for requirement for additional expansion tank on closed loop system

Boiler drain installed on Supply to closed loop should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit
A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain

QSDHS DHW System Notes :
Tank system also includes Tank Drain and P/R Valve (supplied loose)
These should be installed and piped in accordance with local codes



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8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW Piping, Primary Loop Htg c/w QSDHS DHW Storage

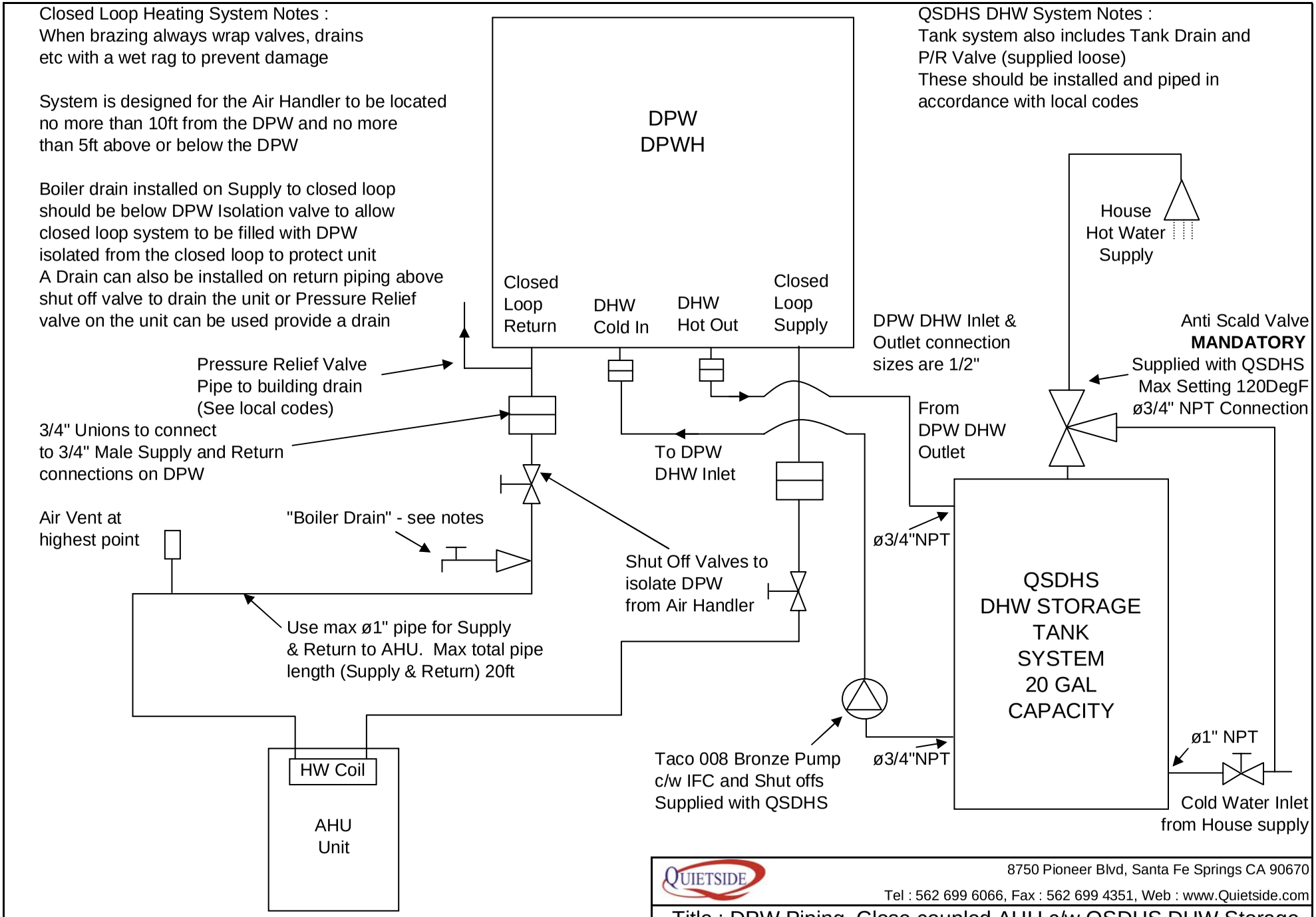
Drg # : QUI-DPWP-003	Drawn : JLM 9/18/2008	Rev : 001

Closed Loop Heating System Notes :
When brazing always wrap valves, drains etc with a wet rag to prevent damage

System is designed for the Air Handler to be located no more than 10ft from the DPW and no more than 5ft above or below the DPW

Boiler drain installed on Supply to closed loop should be below DPW Isolation valve to allow closed loop system to be filled with DPW isolated from the closed loop to protect unit
A Drain can also be installed on return piping above shut off valve to drain the unit or Pressure Relief valve on the unit can be used provide a drain

QSDHS DHW System Notes :
Tank system also includes Tank Drain and P/R Valve (supplied loose)
These should be installed and piped in accordance with local codes



QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW Piping, Close coupled AHU c/w QSDHS DHW Storage

Drg # : QUI-DPWP-004	Drawn : JLM 9/18/2008	Rev : 001

NOTES
TO SET DSR-100F

1 PRESS UNIT ON/OFF BUTTON

2 PRESS HEATING SET
TEMPERATURE BUTTON

3 USE UP AND DOWN ARROWS
TO SELECT DESIRED HEATING
WATER TEMPERATURE
RANGE 122-176 DEGF

4 PRESS DHW SET
TEMPERATURE BUTTON

5 USE UP AND DOWN ARROWS
TO SELECT DESIRED DHW
WATER TEMPERATURE
98-114 DEGF, 120, 130, 140 DEGF

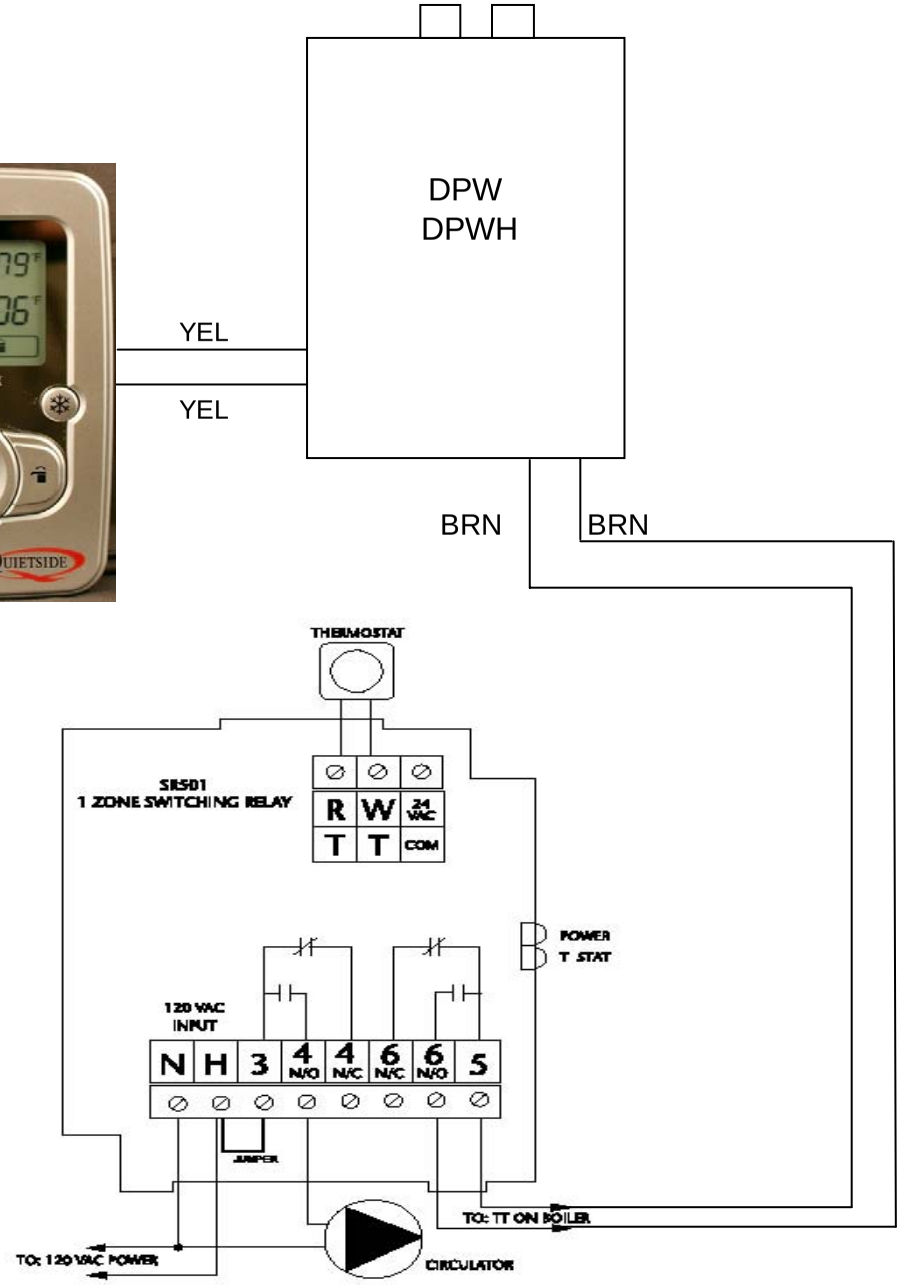
WHEN X-X CONTACT IS CLOSED UNIT
WILL START AND PROVIDE CLOSED LOOP
HEATING WATER AT THE
TEMPERATURE SELECTED

DHW PRIORITY WILL BE MAINTAINED

WHEN THE ZONE(S) SATISFY THE UNIT
WILL SHUT DOWN, DSR WILL REMAIN LIT
AT ALL TIMES

THIS IS THE PREFERRED METHOD TO
CONTROL THE SECONDARY LOOP PUMP
REQUIRED IN ALL NON CLOSE COUPLED
AHU & HW COIL APPLICATIONS

DSR-100F



QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & TACO SR501 ZONE CONTROL PANEL WIRING

Drg # : QUI-ZCW-003	Drawn : JLM 9/24/2008	Rev : 001

NOTES
TO SET DSR-100F

1 PRESS UNIT ON/OFF BUTTON

2 PRESS HEATING SET
TEMPERATURE BUTTON

3 USE UP AND DOWN ARROWS
TO SELECT DESIRED HEATING
WATER TEMPERATURE
RANGE 122-176 DEGF

4 PRESS DHW SET
TEMPERATURE BUTTON

5 USE UP AND DOWN ARROWS
TO SELECT DESIRED DHW
WATER TEMPERATURE
98-114 DEGF, 120, 130, 140 DEGF

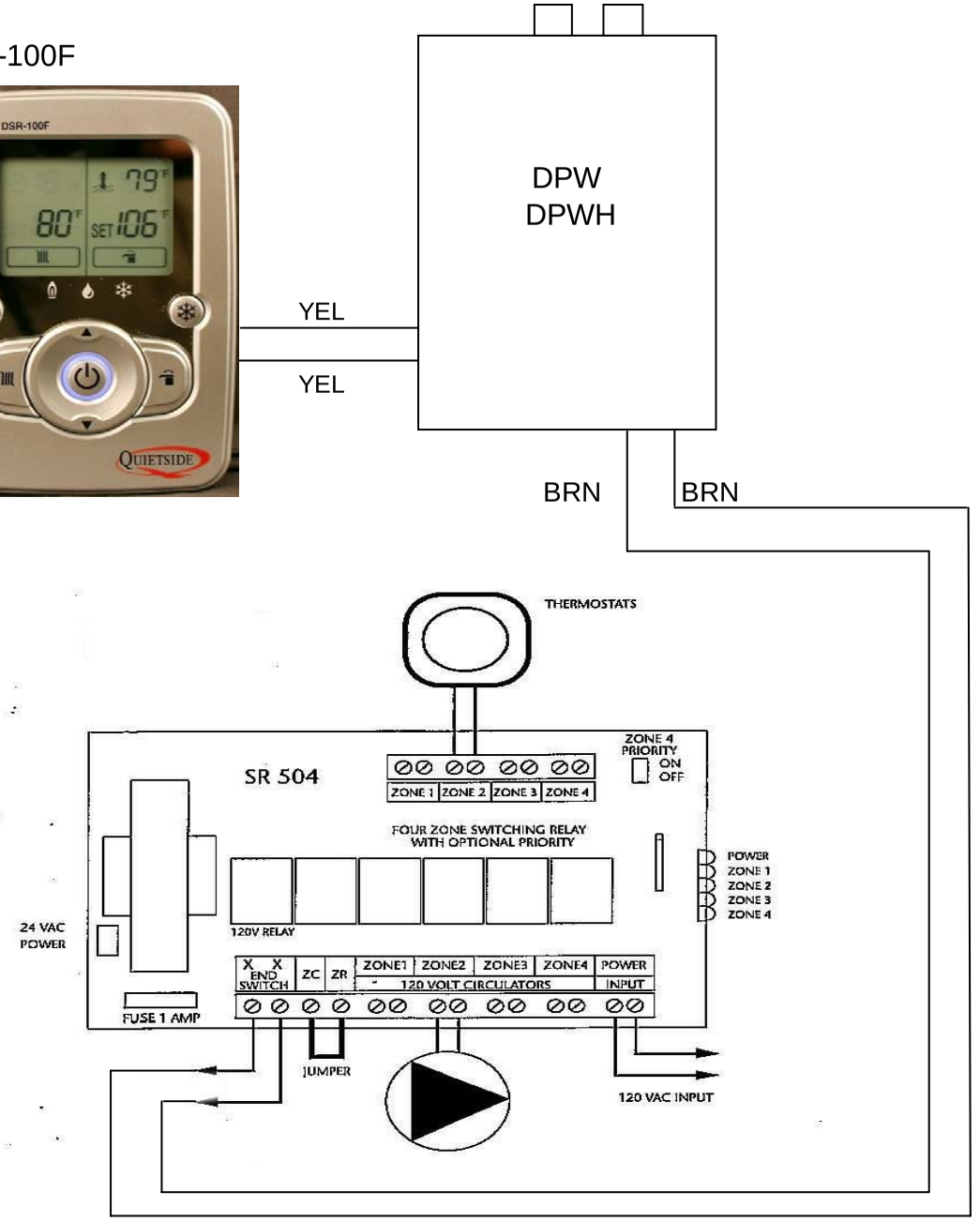
WHEN X-X CONTACT IS CLOSED UNIT
WILL START AND PROVIDE CLOSED LOOP
LOOP HEATING WATER AT THE TEMPERATURE
TEMPERATURE SELECTED

DHW PRIORITY WILL BE MAINTAINED

WHEN THE ZONE(S) SATISFY THE UNIT
WILL SHUT DOWN, DSR WILL REMAIN LIT
AT ALL TIMES

DIAGRAM SHOWS AN SR504, HOWEVER
DIAGRAM CAN BE USED WITH ALL
ZONE CONTROL PANELS (SR, ZV, ETC)
WITH AN X - X OR 0V CONTACT

DSR-100F



QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & TACO SR504 ZONE CONTROL PANEL WIRING

Drg # : QUI-ZW-002	Drawn : JLM 9/24/2006	Rev : 001

NOTES
TO SET DSR-100F

1 PRESS UNIT ON/OFF BUTTON

2 PRESS HEATING SET TEMP
BUTTON (LHS OF ON/OFF BUTTON)

3 USE UP AND DOWN ARROWS
TO SELECT DESIRED HEATING
WATER TEMPERATURE
RANGE 122-176 DEGF

4 PRESS DHW SET TEMP
BUTTON (RHS OF ON/OFF BUTTON)

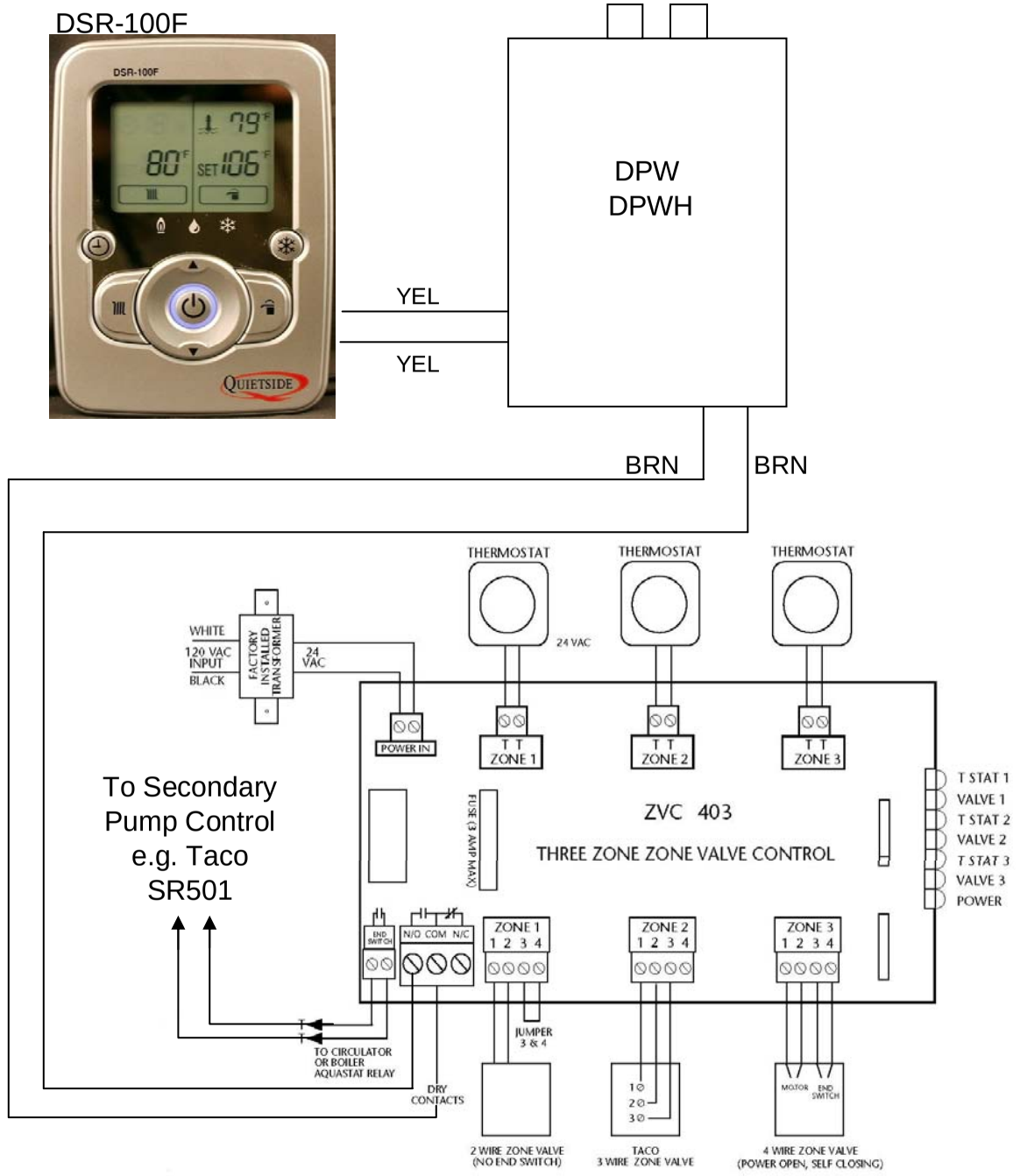
5 USE UP AND DOWN ARROWS
TO SELECT DESIRED DHW
WATER TEMPERATURE
98-114 DEGF, 120, 130, 140 DEGF

WHEN DRY CONTACT IS CLOSED UNIT
WILL START AND PROVIDE CLOSED
LOOP HEATING WATER AT THE
TEMPERATURE SELECTED

DHW PRIORITY WILL BE MAINTAINED

WHEN THE ZONE(S) SATISFY THE UNIT
WILL SHUT DOWN, DSR WILL REMAIN LIT
AT ALL TIMES

THIS IS THE PREFERRED METHOD TO
INTEGRATE ZONE VALVES AND
THE SECONDARY LOOP PUMP



QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & TACO ZVC ZONE CONTROL PANEL WIRING

Drg # : QUI-ZCW-005	Drawn : JLM 10/17/2008	Rev : 001

NOTES
WIRING DIAGRAM FOR CONTROL OF A AIR HANDLER & HW COIL, WHERE PRIMARY PUMP IN DPW IS CAPABLE OF PROVIDING FLOW TO FAN COIL

TO SET DSR-100F CONTROLLER

1 PRESS UNIT ON/OFF BUTTON

2 PRESS HEATING SET TEMPERATURE BUTTON

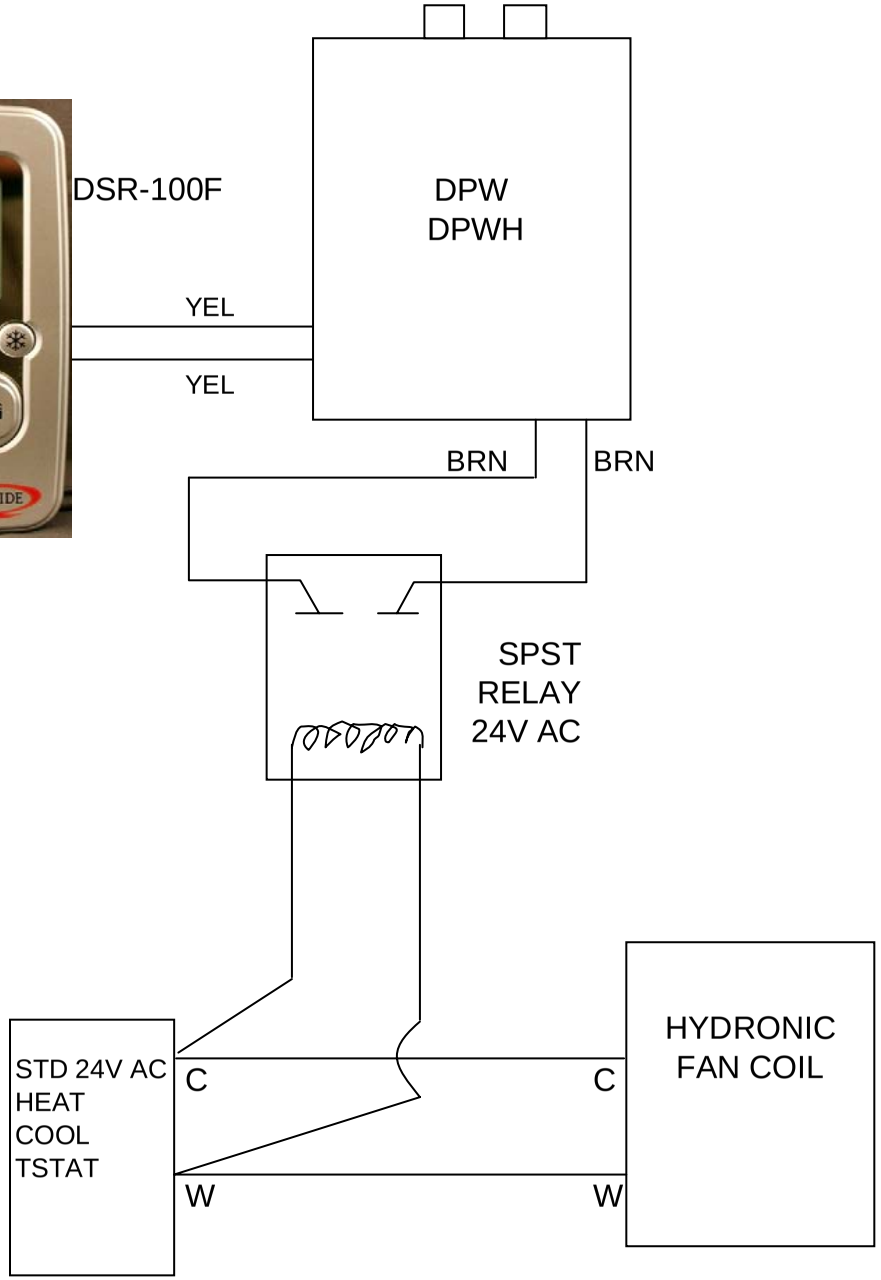
3 USE UP AND DOWN ARROWS TO SELECT DESIRED HEATING WATER TEMPERATURE RANGE 122-176 DEGF

4 PRESS DHW SET TEMPERATURE BUTTON

5 USE UP AND DOWN ARROWS TO SELECT DESIRED DHW WATER TEMPERATURE 98-114 DEGF, 120, 130, 140 DEGF

6 INSTALL AN AQUA STAT IN THE HTG COIL OF THE AIR HANDLER - WIRE TO FAN MOTOR TO STOP FAN OPERATION IF COIL TEMPERATURE FALLS e.g. DHW PRIORITY OR INITIAL START UP

WHEN T-STAT CALLS FOR HEAT, RELAY WILL CLOSE AND DPW UNIT WILL START
WHEN T-STAT IS SATISFIED RELAY WILL OPEN AND UNIT WILL STOP
DSR CONTROL WILL REMAIN LIT AT ALL TIMES



QUIETSIDE
8750 Pioneer Blvd, Santa Fe Springs CA 90670
Tel : 562 699 6066, Fax : 562 699 4351, Web : www.Quietside.com

Title : DPW & SPST RELAY CONTROL WIRING

Drg # : QUI-DPW-ZW-001	Drawn : JLM 9/6/2006	Rev : 001

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6 Pine Hill Dr
Carlisle PA 17013
Tel : 717 243 2535
Fax : 717 243 7917
Web : www.Quietside .com

Quietside maintains a policy of continuous improvement to it's product, therefore specifications may vary without notice, always contact your Quietside distributor for the latest specifications

Certified to ANSI Z.21.10.3/CSA 4.3-2004
3133574CRT-002